FP/FR1100/1200/ 2000 Series

Analogue addressable fire panels, repeaters and emulators

Installation and Commissioning Manual

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1 INTRODUCTION

The purpose of this manual is to provide assistance during the installation and commissioning of the FP/FR1100/1200/2000 Series fire panels, and repeaters/emulators.

Please note that the manual is intended as a guide only and is not to be used to replace any local building and/or wiring codes.

Other manuals available are:

1. Aritech 900 Series Detectors Installation Manual
2. Aritech 2000 Series Detectors Installation Manual
3. FP1200/2000 Reference Guide
4. FP2000 Series Network Configuration Guide
5. FP1200/2000 End User Manual

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

2 GENERAL INFORMATION

2.1 Product codes

FIRE PANELS:

Firepanel	Max. nr. of zone cards	Max. nr. of loops	Max. nr. of detectors / loop	Default detector	Internal printer	Cabinet Size (mm)	Approx. weight (kg) (without batteries)
FP1200-00	0	4A/4B	126/128	Apollo	No	365x444x112	8
FP1200-01	0	2A/2B	64/128	Sentrol	No	365x444x112	8
FP1200-02	0	2A/2B	64	Sentrol	No	365x444x112	8
FP1216	1xZE2016	2A/4B	126/128	Sentrol	No	365x444x112	8
FP1216EN	1x ZE2016	2A/4B	126/128	Sentrol	No	440x444x112	9
FP1264	1xZE2064	2A/4B	126/128	Sentrol	No	440x444x125	9
FP2416	1xZE2016	2A/4B	126/128	Sentrol	Yes	609x441x109	11
FP2464	1xZE2064	2A/4B	126/128	Sentrol	Yes	609x441x109	11
FP2432	2xZE2016	4A/8B	126/128	Sentrol	No	609x441x109	11
FP24128	2xZE2064	4A/8B	126/128	Sentrol	No	609x441x109	11
FP2864	4xZE2016	8A/16B	126/128	Sentrol	Yes	804x441x109	15
FP28255	4xZE2064	8A/16B	126/128	Sentrol	Yes	804x441x109	15
FB2400	0	4A/8B	126/128	Sentrol	No	609x441x109	11
FB2800	0	8A/16B	126/128	Sentrol	No	804x441x109	15

REPEATERS / EMULATORS:

Repeater/ Emulator Panel	Max. nr. of zone cards	Internal printer	Cabinet Size (mm)	Connected to FP1200/ 2000	Voltage Source	Approx. weight (kg) (without batteries)
FR1200	0	No	365x444x 112	NC2011/ NC2051	230 VAC	8
FR2000	0	No	365x444x 112	NC2011/ NC2051	230 VAC	8
FR2032	2xZE2016	No	609x441x 109	NC2011/ NC2051	24 VDC	11
FR20128	2xZE2064	No	609x441x 109	NC2011/ NC2051	24 VDC	11
FR2064	4xZE2016	Yes	804x441x 109	NC2011/ NC2051	24 VDC	15
FR20255	4xZE2064	Yes	804x441x 109	NC2011/ NC2051	24 VDC	15
FM808/816/ 832/864	0	No	Mimic only	Current Loop	24 VDC	No cabinet
FR808	N/A	No	320x315x90	Current Loop	230 VDC	2
FR824	N/A	No	516x346x80	Current Loop	230 VDC	8

Repeater/ Emulator Panel	Max. nr. of zone cards	Internal printer	Cabinet Size (mm)	Connected to FP1200/ 2000	Voltage Source	Approx. weight (kg) (without batteries)
FR832	N/A	No	516x346x80	Current Loop	230V DC	8
FBP700-D	0	No	240x320x60	LON2000	24 VDC	1.5
FBP700-S	0	No	240x320x60	LON2000	24 VDC	1.5
FRL700	0	No	240x320x60	LON2000	24 VDC	1.5
RP2032	0	No	397x290x64	Current Loop	24 VDC	3
UN2000	0	No	290x145x80	NC/NE2011	230 VAC	1.5

OPTIONS:

Extra Modules	Description	Compatibility with						
		FP1216	FP1216EN/ 2416/2432/ 2864	FP1264 / 2464/ 24128/ 28255	FB2x00	FR1200	FR2000 / 2032/ 2064	FR20128/ 20255
LC2002	Loop driver extension	•	•	•	•			
LON2000	LON protocol converter	•	•	•	•	•	•	•
MOD2000	Modem	•	•	•	•		•	•
NA2004	4-way network amplifier		•	•	•	•	•	•
NC2011	Network card - RS485	•	•	•	•	•	•	•
NC2051	Network card - optical	•	•	•	•	•	•	•
NE2011	Network extension card - RS485	•	•	•	•	•	•	•
NE2051	Network extension card – optical	•	•	•	•	•	•	•
PE2485	French CMSI interface		•*	•*	•		•	•
PR2000/ PR2011	Internal printer (40 column impact printer)		•**	•**			•*	•*
RB2016	16 programmable relay board	•	•	•	•			
SD1200	3 output sounder board	•						
SD2000	4 input/8 output sounder board		•	•	•			
VdS2000	German sounder board			•				
ZE2016	16 zones LED extension	•	•				•	

Extra Modules	Description	Compatibility with						
		FP1216	FP1216EN/ 2416/2432/ 2864	FP1264 / 2464/ 24128/ 28255	FB2x00	FR1200	FR2000 / 2032/ 2064	FR20128/ 20255
ZE2064	64 zones LED extension			•				•

** Excludes the FP1200 series of firepanels*

*** Option on FP2416/2464, FP2864/28255 & FR20255 only*

MODULE VARIATION:

Board	Product used in	Variation
FEP1200	FP11xx/12xx	FEP1200 – 0 x Auxiliary inputs
FEP2000	FP2xxx/FB2x00	FEP2000 – 4 x Auxiliary inputs
FC1200	FP11xx/12xx & FR12xx	FC1200 – 1 x DB9 port, Real Time Clock without battery backup
FC2011	FP2xxx/FB2x00 & FR20xx	FC2011 – 2 x DB9 ports, Real Time Clock with battery backup
LCD1200	FP11xx/12xx & FR12xx	LCD1200 – No LCD backlight
LCD2000/2011	FP/FR2xxx	LCD2011 – LCD backlight

SOFTWARE:

Software Package	Description
PCM2000	Maintenance Manager
PCC2000	FPConfig – Configuration Software (up/download)
PCG2000	Graphical User Interface

2.2 Design specifications

The FP1100/1200/2000 series fire panels are designed to comply with the requirements of EN54-2 (control and indicating equipment) and EN54-4 (power supply equipment).

The panels have the following options with requirements according to EN54-2:

- Output to fire alarm devices
- Output to fire alarm routing equipment (according to DIN VDE0833)
- Output to fire protection equipment (according to VdS-directive)
- Delays to outputs
- Coincidence detection
- Alarm counter

- Fault/disablements from addressable points
- Output to fault warning routing equipment
- Standardised input/output interface (according to DIN 14661)
- Test condition
- Total loss of power supply (option)

3 TECHNICAL SPECIFICATIONS

3.1 General specifications

Loop capacity:

- Every loop PCB (LC2002) can be configured as two class A loops or four class B loops. (Except FP1200-00 2A/4B or 4A/4B; FP1200-01 2A/2B; FP1200-02 2A/2B)
- Addressable devices per loop: 126 (900 Series) or 128 (2000 Series)
- Maximum 1008 (900 Series) or 1024 (2000 Series) addressable devices per panel
- Maximum eight loops per panel (FP2000 range only)
- Loop overload: >500 mA
- Loop operating load: 100 mA maximum

Zone capacity:

- 16 or 64 zones (expandable to 32/128, 48/192 or 64/255 zones in cabinet size B)
- 112 zones for control purposes

LCD screen:

- Backlit alphanumeric 8 x 40 character LCD

Indicators:

- General indicators

Fire	- 2 x LED - Red
Fault	- 1 x LED - Amber
Disable	- 1 x LED - Amber
Supply fault	- 1 x LED - Amber
System fault	- 1 x LED - Amber
Processor running	- 1 x LED - Green
Supply On	- 1 x LED - Green

- Control indicators

Silence buzzer	- 1 x LED - Amber
Disable	- 1 x LED - Amber
Test	- 1 x LED - Amber
Third source test	- 1 x LED - Amber

- Sounders indicators

Sound	- 1 x LED - Red
Delay On	- 1 x LED - Amber
Delay Off	- 1 x LED - Amber
Fault/Disable	- 1 x LED - Amber
Silence	- 1 x LED - Amber

- Fire brigade indicators

Signal	- 1 x LED - Red
Delay On	- 1 x LED - Amber
Delay Off	- 1 x LED - Amber
Fault/Disable	- 1 x LED - Amber
Stop fire brigade	- 1 x LED - Amber

- Zone monitoring indicators

Fire	-	16/64 x LED - Red (expandable to 32/128, 48/192 or 64/255)
Fault	-	16/64 x LED - Amber (expandable to 32/128, 48/192 or 64/255)

- Indicators related to network facilities

All	- 1 x LED - Amber
Panel	- 1 x LED - Amber

Membrane keyboard:

1, 2, 3, 4, 5, 6, 7, 8, 9, 0, A .. Z

General control keys:

Silence buzzer
Reset
Disable
Test
Third source test

Sounders control:

Sound
Delay On/Delay Off
Disable
Silence

Fire brigade control:

Signal
Delay On/Delay Off
Disable
Stop fire brigade

Control keys related to network facilities (Excludes FP12xx range):

All
Panel

Control key switch:

Prevents unauthorised resetting and programming of the fire panel.

Tamper switch (FP2000 Range only):

Fitted to the inside of the fire panel door to record any entry to the cabinet.

Third source (when implemented on the FP2000 range only):

Test button and LED to test total loss of power supply.

Communication ports:

- 2 x DB-9 serial port (set-up, upload/download, internal printer (where applicable), graphics, remote operation/graphic package)
- 1 x current loop (to connect repeaters and fireman's panels)

Current Loop:

- Maximum 15 devices
- Maximum 1 km between 2 current loop devices
- Aritech FM800 / FR800 - German fire brigade panel (according to DIN 14661) can be connected.
- Cable capacitance max. 150 nF

3.2 Panel specifications

3.2.1 Standard Outputs

Standard Outputs (All standard outputs are located on the sounder board.)	**FP/FR1xxx & FR2000** **(**FP1100 and FP1216 only; FP1200 optional – SD1200 board used)	**FP1216EN & FP1264** (SD2000 board)	**FP/FR2xxx** (FP2xxx only - SD2000 board used)
OUT 1: Output to alarm devices (Sounders)	A: 24 V – 100 mA supervised* (Supervision at 5V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.8 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.8 A supervised (Supervision at 5 V max.) B: 3K3/680Ohm switched output
OUT2: Output to fire routing equipment (Fire brigade)	A: 24 V – 100 mA supervised* (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.8 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.8 A supervised (Supervision at 5V max.) B: 3K3/680 Ohm switched output
OUT3: Output to fire protection equipment	A: 24 V – 100 mA supervised* (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.1 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.1 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output
OUT4: Output to fault warning routings equipment	A: 24 V – 100 mA supervised* (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.1 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output	A: 24 V - 0.1 A supervised (Supervision at 5 V max.) B: 3K3/680 Ohm switched output

Standard Outputs (All standard outputs are located on the sounder board.)	FP/FR1xxx & FR2000 (FP1100 and FP1216 only; FP1200 optional – SD1200 board used)	FP1216EN & FP1264 (SD2000 board)	FP/FR2xxx (FP2xxx only - SD2000 board used)
OUT5 – OUT8: 4 programmable relays (Three terminals each: COM - NO – NC)	Maximum switching current: 2 A @ 24 VDC Maximum power rating: 50 W DC 250 VA	Maximum switching current: 2 A @ 24 V DC Maximum power rating: 50 W DC 250 VA	Maximum switching current: 2 A @ 24 VDC Maximum power rating: 50 W DC 250 VA

** The maximum specified current of 100 mA for Output 1 and Output 2 can be exceeded as long as the total current drawn by the outputs (1-4) is limited to 400 mA.*

3.2.2 Standard Inputs

Standard Inputs	FP/FR1xxx & FR2000 (FP1100 and FP1216 only; FP1200 optional – SD1200 board used)	FP1216EN & FP1264 (SD2000 board)	FP/FR2xxx (FP2xxx only – SD2000 board used)
Sounder card	4 x supervised inputs (inputs 1-4) 3.3 kOhm termination	4 x supervised inputs (inputs 1-4) 3.3 kOhm termination	4 x supervised inputs (inputs 1-4) 3.3 kOhm termination
FEP board (FP2xxx and FB2x00 only)			4 x auxiliary inputs 15 VAC or 20-28 VDC 3 mA

3.2.3 Power Supply Characteristics

Power Supply Characteristics	FP/FR1xxx & FR2000	FP1216EN & FP1264	FP/FR2xxx	FR2032/20128 FR2064/20255
Input	230 VAC (+10%, -15%) 50 Hz (±10%) 50 VA 21 – 28 VDC 24 V standby battery	230 VAC (+10%, -15%) 50 Hz (±10%) 220 VA 21 – 28 VDC 24 V standby battery	230 VAC (±15%) 50 Hz (±10%) 200 VA 21 – 28 VDC 24 V standby battery	21 – 28 VDC 24 V standby battery
Output	Aux. Power: 19-27.5 VDC, 100 mA (max) Modem: 5 VDC (±0.1V), 75mA (max) Battery charge: 27.6 VDC (±0.2 V) @ 25 ℃, 300 mA (max)	Aux. Power: 19-27.5 VDC, 100 mA (max) Modem: 5 VDC (±0.1V), 75 mA (max) Battery charge: 27.6 VDC (±0.2 V) @ 25 ℃, 1.6 A (max)	Auxiliary Voltage: 20.5-28 V 27.6V DC battery charge voltage, 4A total (battery charge and aux. with or without batteries.)	
Supervisory	- Mains fail - Battery disconnect	- Mains fail - Battery disconnect	- Mains fail - Battery disconnect	- Mains fail - Charger fail

Power Supply Characteristics	FP/FR1xxx & FR2000	FP1216EN & FP1264	FP/FR2xxx	FR2032/20128 FR2064/20255
	- Battery flat - Flat battery cut-out - Earth fault - Auxiliary supply fault	- Battery flat - Flat battery cut-out - Earth fault - Auxiliary supply fault	- Battery flat - Flat battery cut-out	
Fuses	AC fuse – 0.8 A, 250 V, T (20 mm STD fuse)	AC fuse – 2 A, 250 V, T (20mm STD fuse)	AC fuse – 2 A (20 mm STD fuse) Aux. Output – 5 A (20 mm STD fuse) Battery fuse – 5 A (20 mm STD fuse)	Fuse – 1 A (20 mm STD fuse)
Maximum current drawn from the primary input	250 mA	1 A	1 A	0.3 A (no options installed)
Maximum output ripple voltage	± 300 mV	± 300 mV	± 300 mV	
Fault Relay (Configuration depended on jumper setting – refer to section 6.4.2.2.)	Maximum switching current: 2A @ 24 VDC Maximum power rating: 50 W	Maximum switching current: 2 A @ 24VDC Maximum power rating: 50 W	-	-

3.2.4 Panel Operation

Battery operation - Normal operation (No mains power)	FP12XX	FR1200/FR2000	FP1216EN & FP1264
Current required by system	200 mA (max)	200 mA (max)	200 mA (max)
Loop current - 2 loops - 127 devices/loop @ 340 µA/device (DP951)	86 mA	0 mA	86 mA
Auxiliary current	0 mA	0 mA	0 mA
Total normal current	286 mA	200 mA	286 mA

Battery Operation - Alarm Operation (No mains power)	FP12XX	FR1200/FR2000	FP1216EN & FP1264
Normal current (as above)	286 mA (max)	200 mA (max)	286 mA (max)
Extra loop current (20 x LED @ 4 mA)	80 mA	0 mA	80 mA
Sounders (Sounder board: Outputs 1-4)	200 mA	0 mA	200 mA
Total alarm current	566 mA	200 mA	566 mA

Normal Operation	FP2416/2464 & FP2432/24128	FP2864, FP28255
Mains load (maximum)	200 VA	200 VA
Total output current (27.6 V)	4 A	4 A
Battery capacity I_{AUX} = 0 (72H standby)	36 AH	58 AH
Battery capacity (maximum)	69 AH	69 AH
Required battery charging current (Maximum battery capacity)	3.05 A	3.05 A
Current required by system (I_{SYS})*	0.5 A	0.8 A
Available auxiliary current	0.45 A	0.15 A

Alarm Operation	FP2416/2464 & FP2432/24128	FP2864, FP28255
Mains load (maximum)	200 VA	200 VA
Total output current (27.6 V)	4 A	4 A
Required battery charging current (Maximum battery capacity)	0 A	0 A
Current required by system	0.6 A	1 A
Available auxiliary current	3.4 A	3 A

**I_{SYS} calculated at 252 x 900 series ionisation detectors (FP2416/64) 1008 x 900 series ionisation detectors (FP2864/255)*

Charging current based to charge batteries up to 80% in 24 hours at 75% efficiency

3.2.5 Environmental

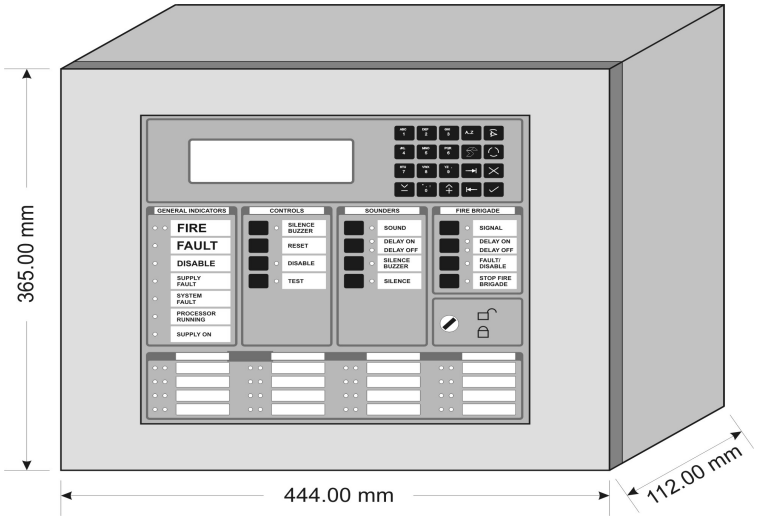
Environmental	FP/FR1xxx & FR2000	FP1216EN & FP1264	FP/FR2xxx
Enclosure protection	IP54	IP54	IP54
Temperature	Operational: -5 ºC to +40 ºC Storage: -20 ºC to +60 ºC	Operational: - 5 ºC to +40 ºC Storage: -20 ºC to +60 ºC	Operational: - 5 ºC to +40 ºC Storage: -20 ºC to +60 ºC

4 MOUNTING INSTRUCTIONS

4.1 FP/FR12xx

4.1.1 Panel dimensions

Figure 1: Panel dimensions



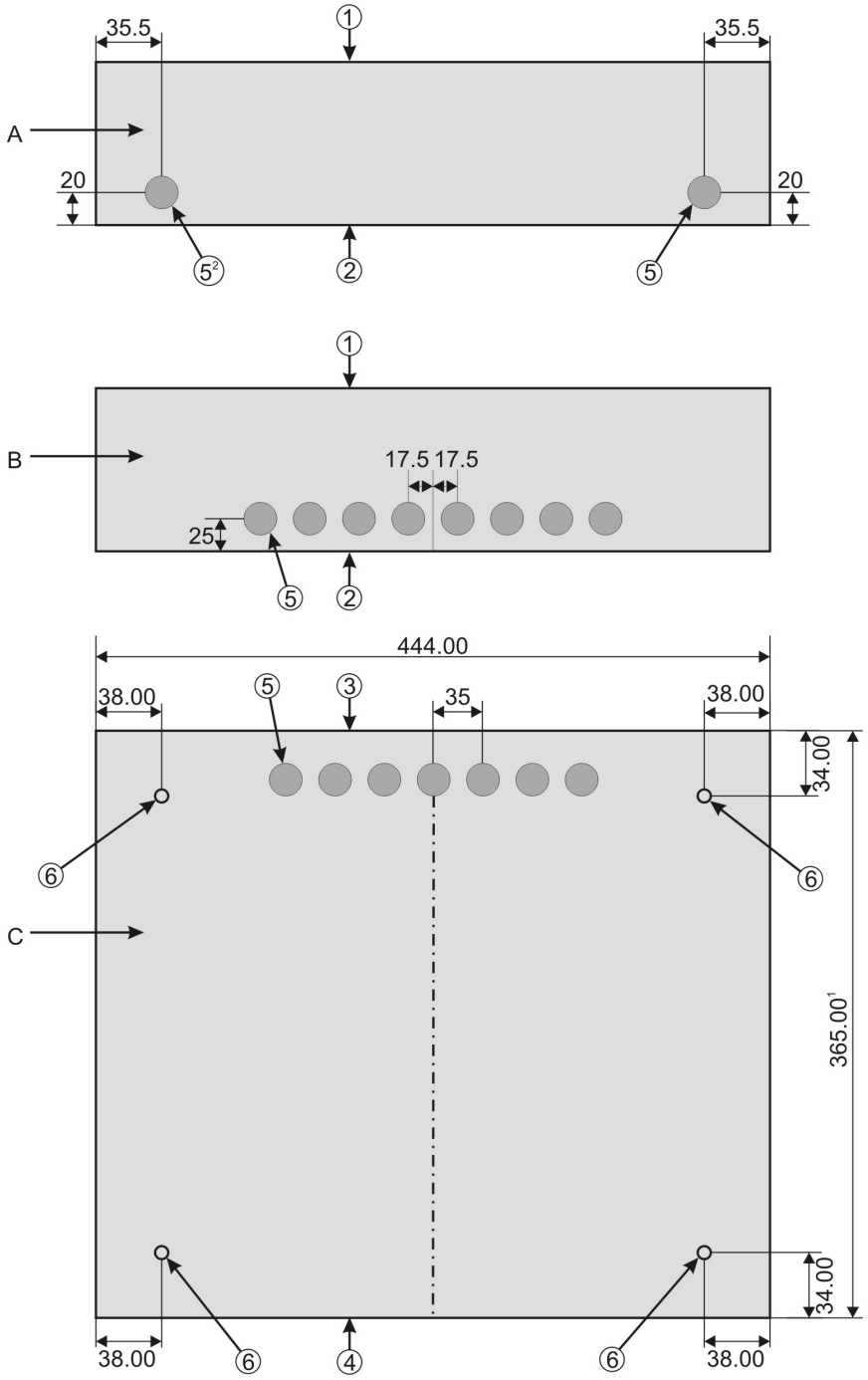
All dimensions are in mm.

FP1200/FP1216/FR1200/FR2000: 365 X 444 X 112 (H X W X D) mm

FP1216EN/FP1264: 440 X 444 X 125 (H X W X D) mm

4.1.2 Mounting instructions

Figure 2: Top/bottom cable entries



1. Panel front
2. Rear mounting surface
3. Panel top
4. Panel bottom
5. Cable entries 20 mm
6. Mounting holes 5 mm

A. Bottom view
B. Top view
C. Rear panel view

[1] 440 mm for the FP1216EN & FP1264

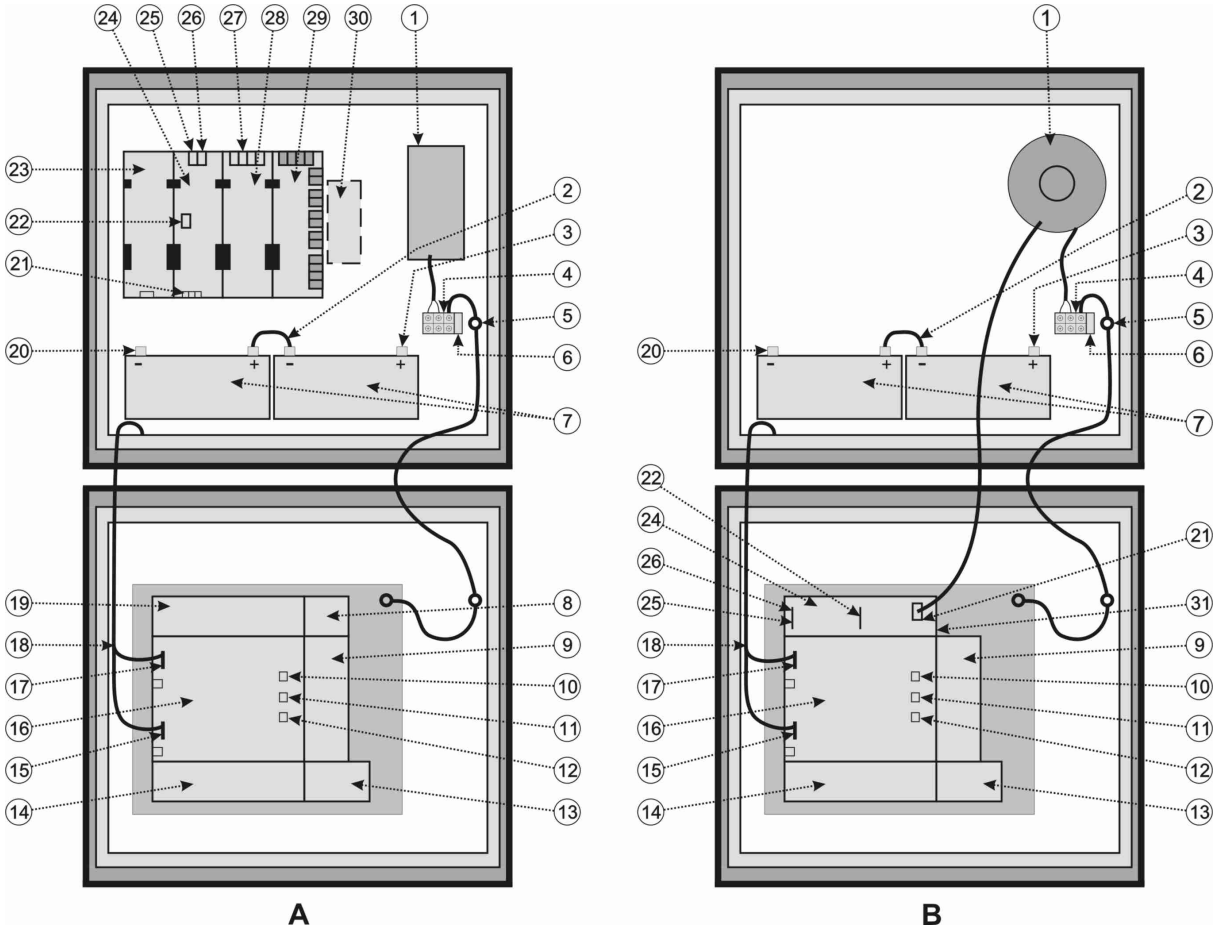
[2] Not applicable to FP1216EN & FP1264

CAUTION! *Mains wires (230 V) must enter the cabinet from the right bottom hole in the cabinet only.* ***Top entry violates IEC950 safety requirements and will cause EMC problems.***

Mains wires must not be routed past the electronic modules in the rear of the panel. It must be kept as short as possible and routed directly to the mains input.

4.1.3 Panel & repeater layout

Figure 3: Panel layout

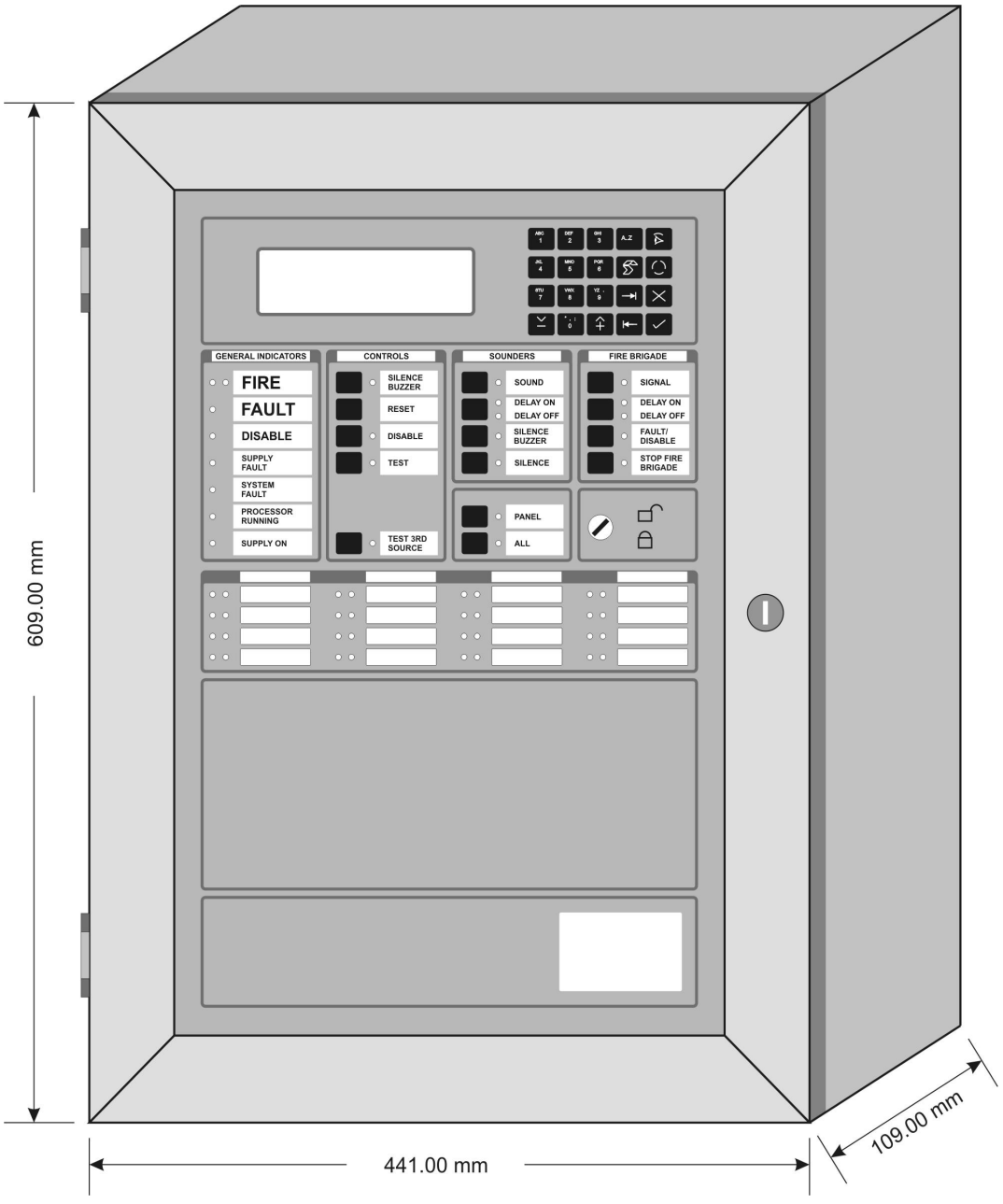


A. FP1216EN & FP1264
B. FR1200 & FR2000
1. Transformer
2. Battery link
3. Battery terminal (+) (red)
4. Mains terminal block
5. Earth stud
6. Main fuse and switch
7. Batteries 12V (2x) (optional)
8. Zone matrix display board (bottom) (optional)
9. Common LED board
10. Service commission mode select
11. Non-volatile memory lock
12. Memory back-up battery jumper
13. Numeric keypad
14. LCD display
15. Current loop terminals
16. Host CPU board
17. DB-9 port
18. RS232 and current loop routing of wires
19. ARCNET network card (top) (optional)
20. Battery terminal (-) (black)
21. Battery and power supply connection terminals
22. Modem (MOD2000) power supply terminals
23. Front-end processor board
24. Power supply board
25. Fault relay connections
26. Auxiliary power connections
27. Loop 1-4 terminal connections
28. 2 Loop driver board
29. Sounder relay board
30. Modem (MOD2000) (optional)
31. ARCNET network card (bottom) (NC2011)

4.2 FP2xxx

4.2.1 Panel dimensions

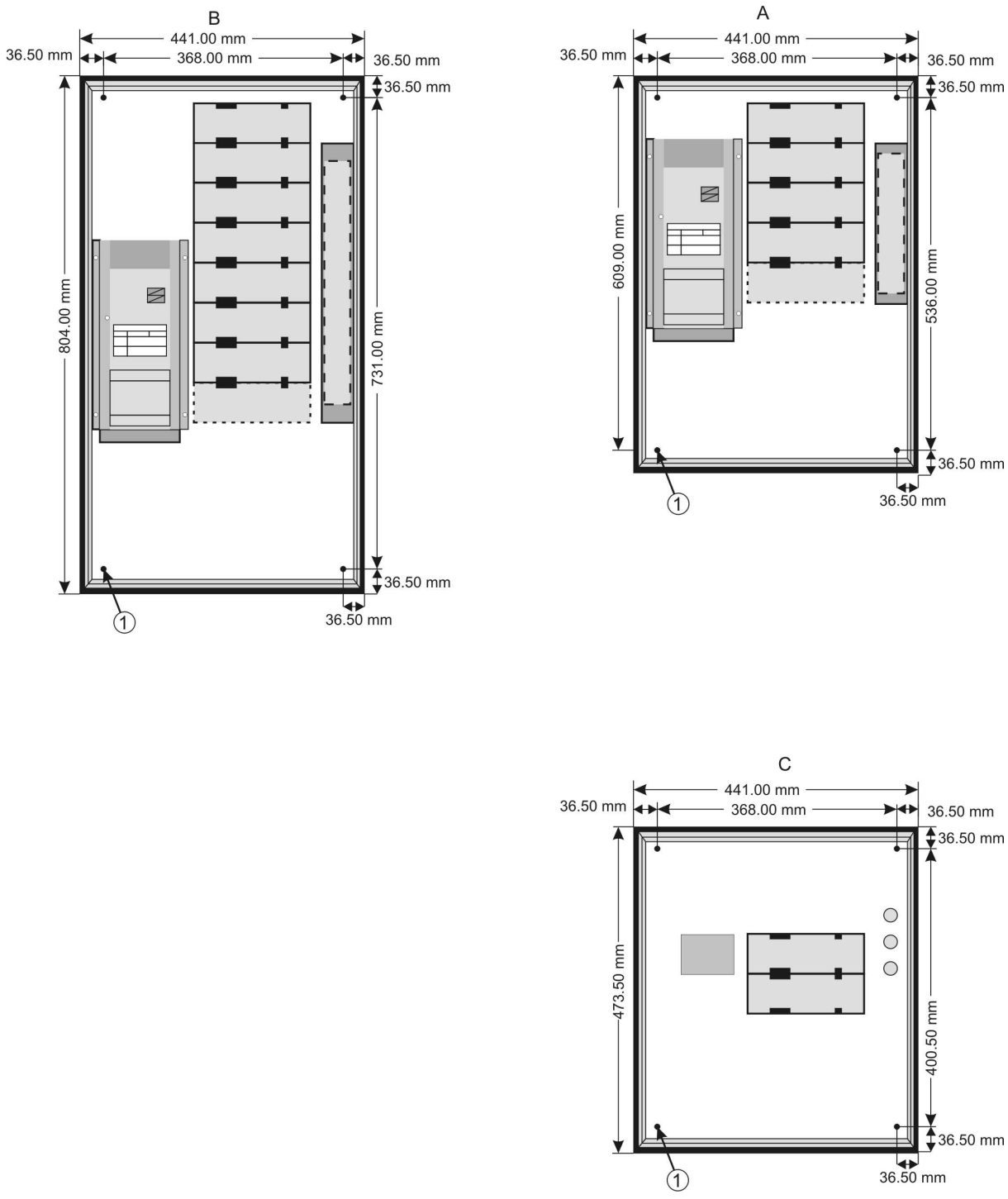
Figure 4: Panel dimensions (cabinet size A)



Cabinet size B: 804 x 441 x 109 mm (H x W x D)
Cabinet size C: 473.5 x 441 x 109 mm(H x W x D)

4.2.2 Mounting instructions

Figure 5: Mounting instructions



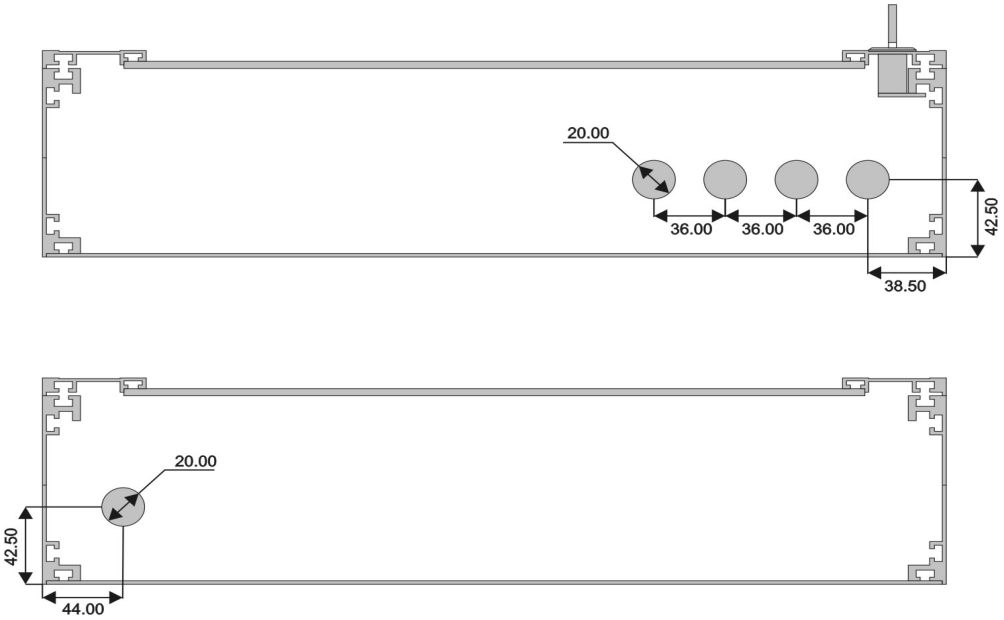
A. Cabinet size A
B. Cabinet size B
C. Cabinet size C
1. 4 x 5 mm mounting holes

The 5 mm mounting holes are located as shown in Figure 2.

Five 20 mm holes are provided for cable entry at the top and bottom of the panel.

The total panel weight equals: 11 kg for size A cabinet (excluding batteries)
15 kg for size B cabinet (excluding batteries)
9 kg for size C cabinet (excluding batteries)

Figure 6: Cable entries

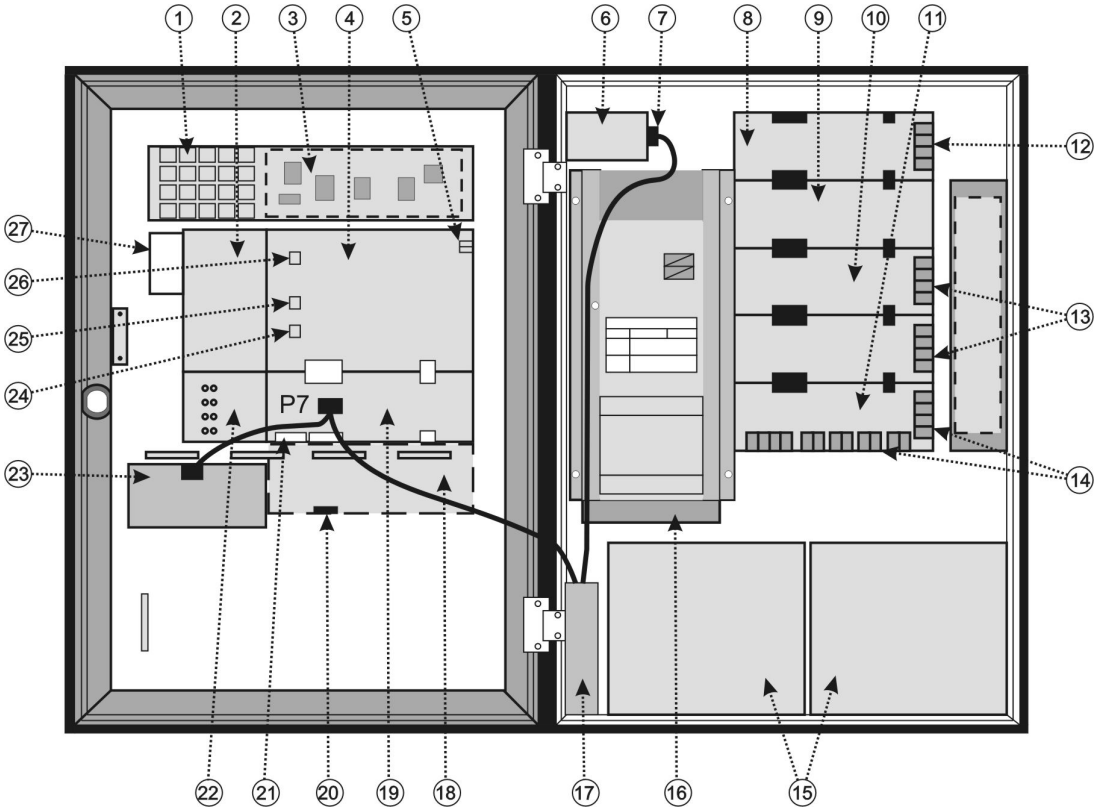


CAUTION! *Mains wires (230V) must enter the cabinet from the left bottom hole in the cabinet only.* **Top entry violates EN60950 (IEC950) safety requirements and will cause EMC** problems.

Mains wires must not be routed past the electronic modules in the rear of the panel. It must be kept as short as possible and routed directly to the mains input connected to the power supply (PS2000)

4.2.3 Panel layout

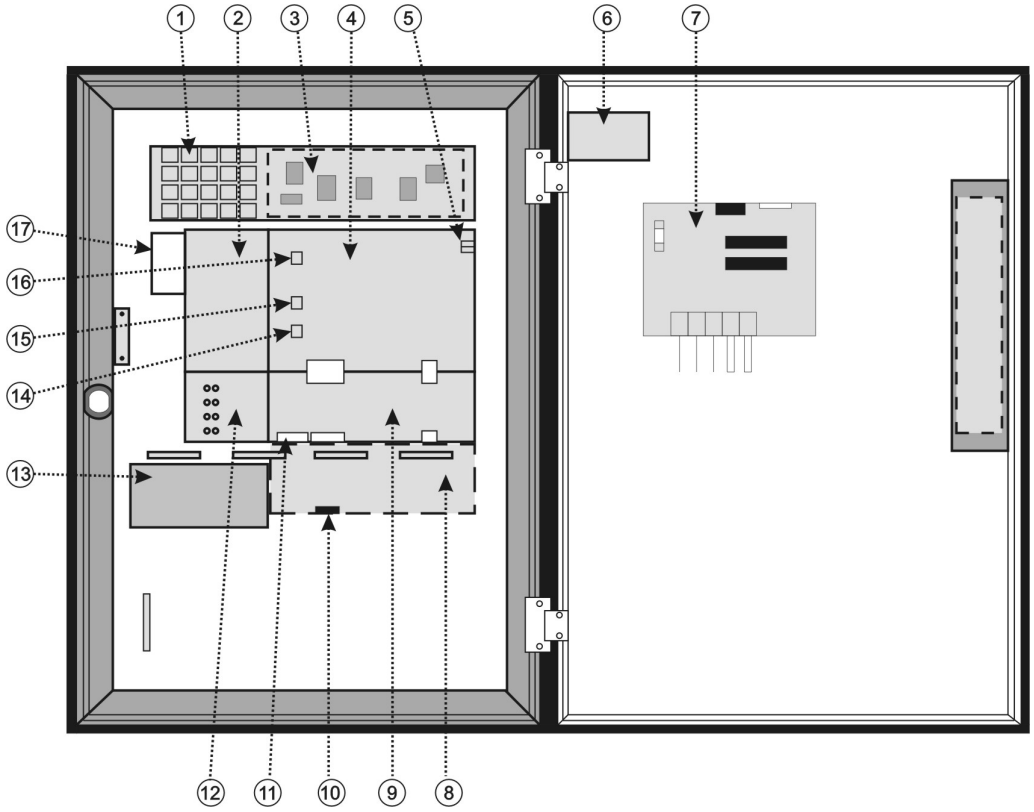
Figure 7: Panel layout



1. Numeric keypad
2. Common LED board
3. LCD Display and backlight board
4. Host processor board
5. Current loop terminal connections
6. RS232 ports (DB-9connectors) (port 1-front; port 2-back)
7. DB9-DB25 adapter (with modem)
8. Front-end processor board
9. FEP power supply board
10. 2 Loop driver board (x2)
11. Sounder relay board
12. Auxiliary inputs terminal connections
13. Loop 1-4 terminal connections
14. Terminal connections sounder board
15. 2 x battery
16. Power supply and battery charger
17. Modem (optional)
18. Optional ARCNET network card
19. Host power supply board
20. Bus-termination card
21. DIP switch
22. Zone matrix display board
23. Optional internal printer (PR2000)
24. Service/commission mode switch
25. Non-volatile memory lock
26. Memory back-up battery jumper
27. Optional third source battery

4.2.4 Repeater layout

Figure 8: Repeater layout



1. Numeric keypad
2. Common LED board
3. LCD Display and backlight board
4. Host processor board
5. Current loop terminal connections
6. RS232 ports (DB-9 connectors) (port 1-front; port 2-back)
7. 24 VDC power supply
8. Optional ARCNET network card
9. Host power supply board
10. Bus-termination card
11. DIP switch
12. Zone matrix display board
13. Optional internal printer (PR2000)
14. Service/commission mode switch
15. Non-volatile memory lock
16. Memory back-up battery jumper
17. Optional third source battery

5 LOOP DESIGN (FP12XX/FP2XXX/FB2X00 ONLY)

5.1 Typical configuration

The fire panel accepts the following loop configurations.

Figure 9: Class "A" return loop

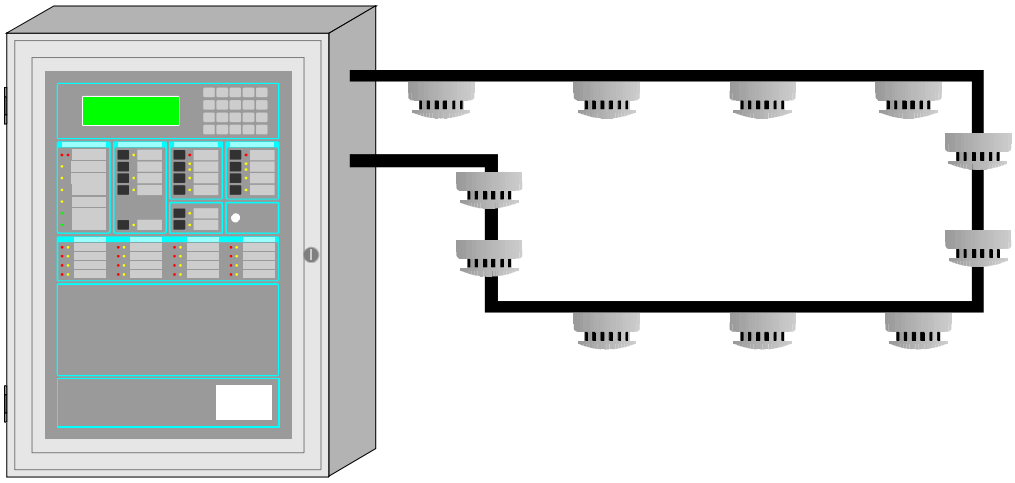


Figure 10: Class "A" return loop with tee offs

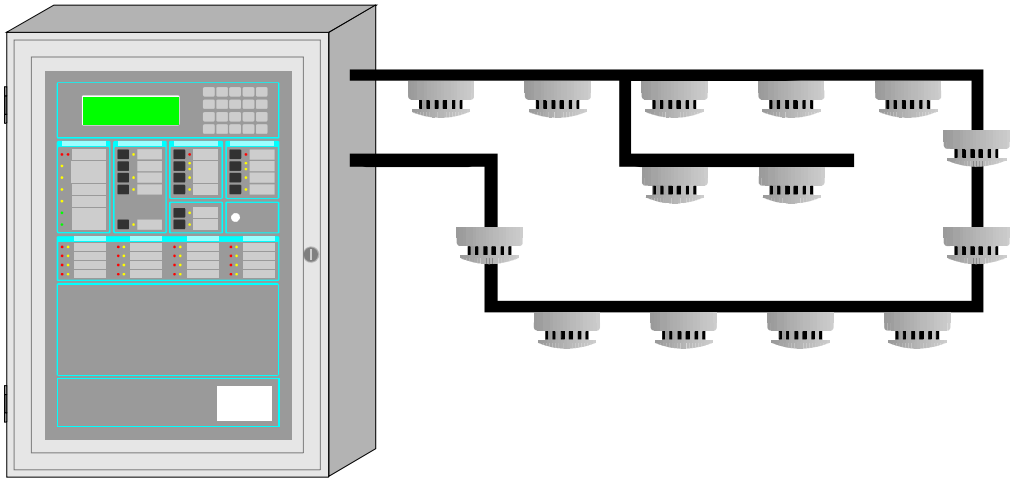


Figure 11: Class "B" Single direction loop (Star configuration)

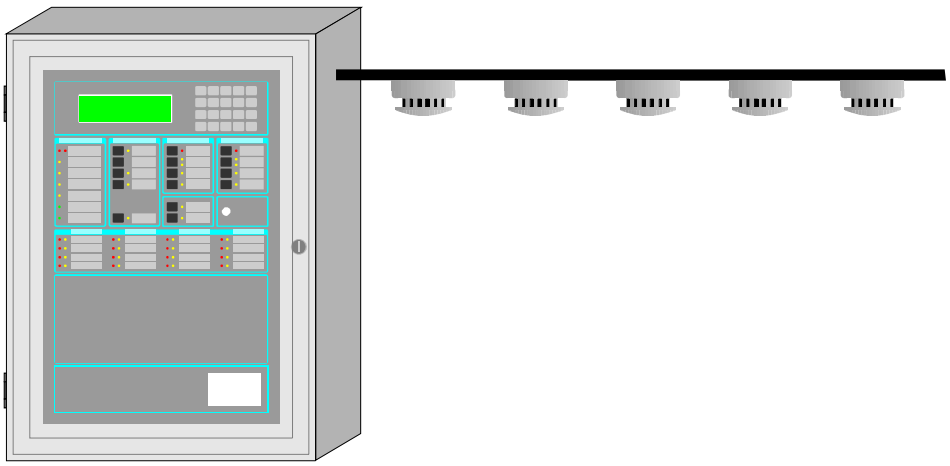
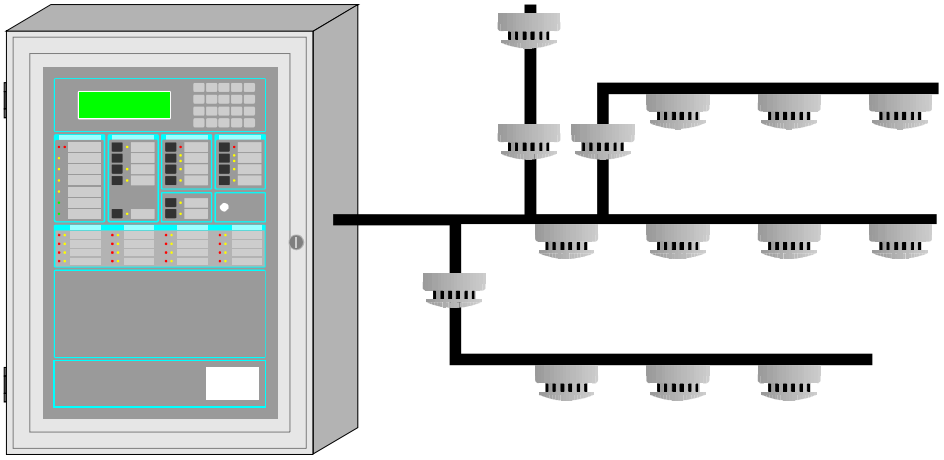


Figure 12: Class B single direction loop with tee offs



A maximum of 126 detectors (900 Series) or 128 detectors (2000 Series) can be connected to a loop. For combinations of fire sensing devices, monitoring controllers and input/output devices, the maximum number of addressable units must be calculated.

Please refer to the Installation Manual of the 900 Series and 2000 Series detectors.

EN54 specifies that a short circuit or an interruption in a detection circuit cannot prevent the indication of a fire alarm from more than 32 fire detectors and/or manual call points.

Therefore, when more than 32 detectors are connected to one loop, an isolator should be placed at least at every 32 devices. In that case, a class A configuration (no Tee Offs) should always be used.

EN54 specifies that in case of a system fault, not more than 512 fire detectors and/or manual call points and their associated mandatory functions shall be affected. Taking this into consideration, the amount of detectors per panel should be limited to 512.

5.2 Suitable cable types

The maximum serial cable resistance must be no more than 100 ohm and the maximum loop capacitance in parallel with this should not exceed 1uF.

This will ensure that 126 (900 Series) or 128 (2000 Series) detectors can be operated over a distance of 2 km.

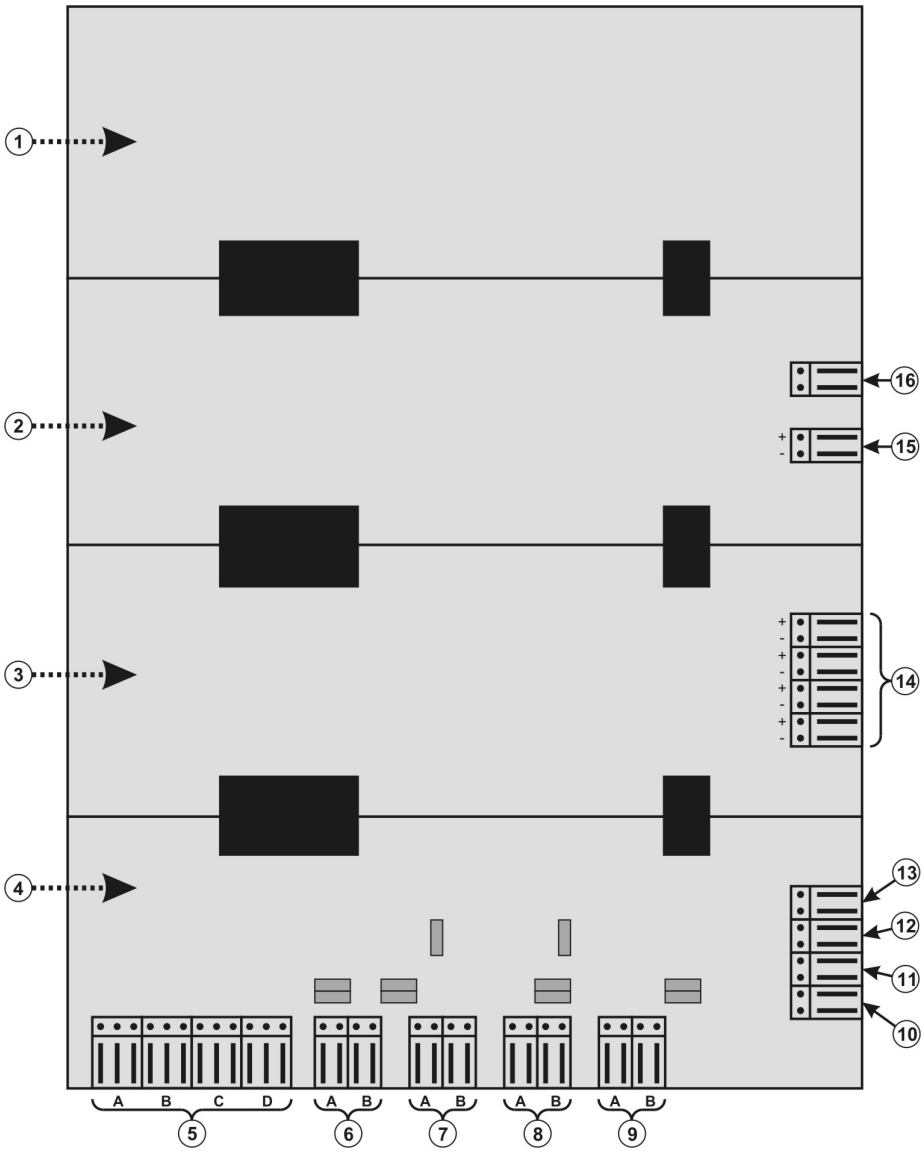
✍ *The cable resistance limit is calculated to maintain the minimum required supply - voltage in the presence of the worst-case load conditions.*

6 FIELD CONNECTIONS

6.1 Loop, output and input connections

6.1.1 FP12xx

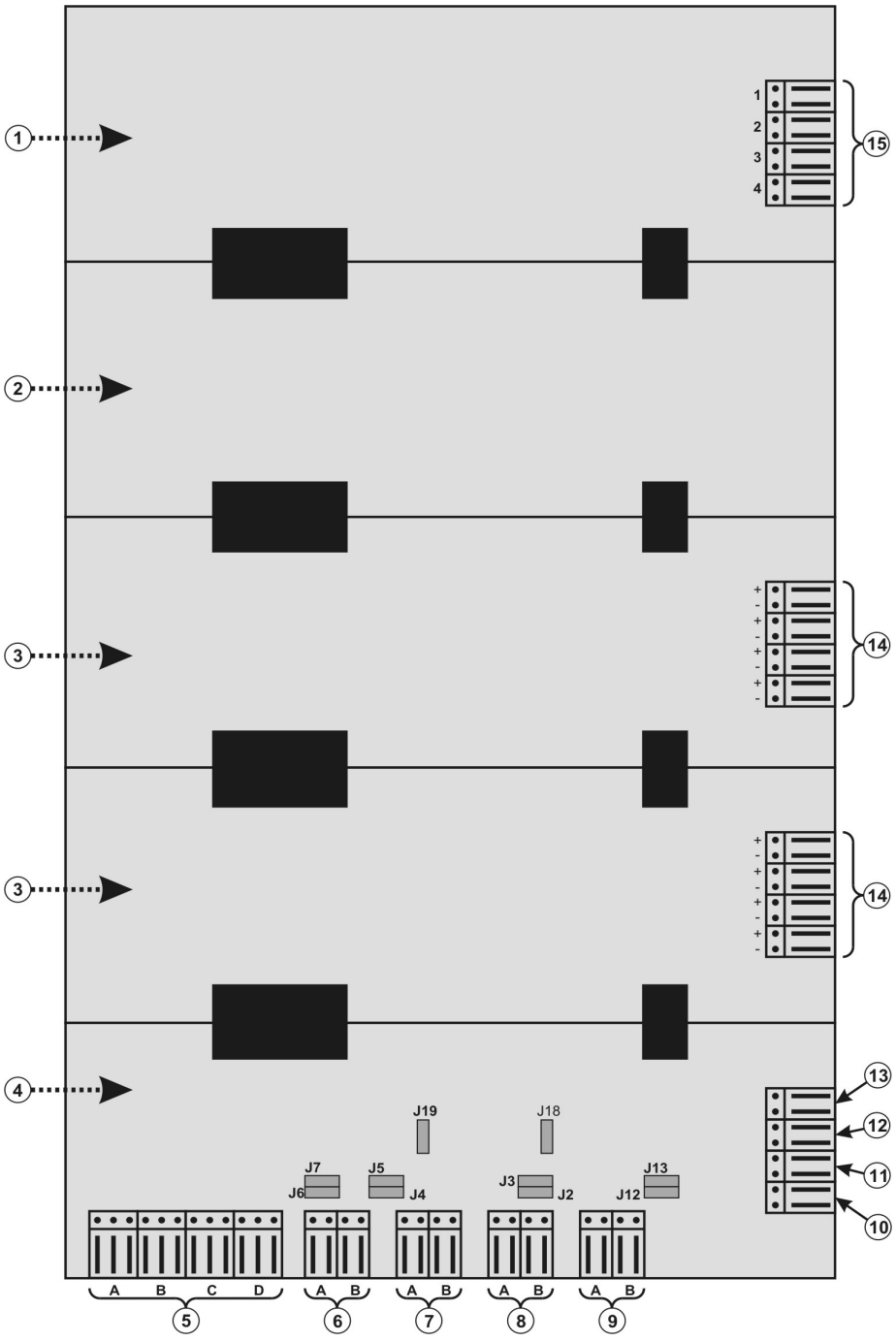
Figure 13: Position of inputs, loops and relay connections



1. FEP
2. Power supply board
3. Loop driver
4. Sounder board
5. Programmable relays (FP1216/64 only)
6. Fault routing (FP1216/64 only)
7. Fire protection
8. Fire routing
9. Fire alarm devices
10. General input (FP1216/64 only)
11. Fault routing return input FP1216/64 only)
12. Fire protection return input (FP1216/64 only)
13. Fire brigade return input (FP1216/64 only)
14. 2 x class A loops or 2 x class B loops
15. Auxiliary power
16. Fault relay

6.1.2 FP2xxx

Figure 14: Position of inputs, loops and relay connections



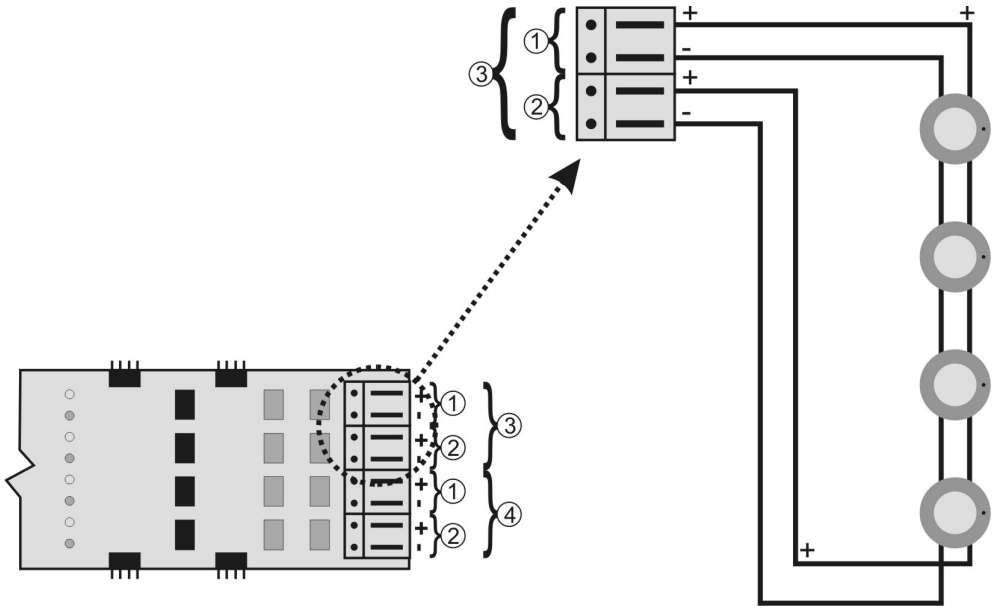
1. FEP
2. Power supply board
3. Line driver
4. Sounder board
5. Programmable relays
6. Fault routing
7. Fire protection
8. Fire routing
9. Fire alarm devices
10. General input
11. Fault routing return input
12. Fire protection return input
13. Fire brigade return input
14. 2 x class A loops or 2 x class B loops
15. 4 Auxiliary inputs

6.2 Connections

6.2.1 Loop connections

Standard, the panel is configured in a class A set-up (*see also Chapter 5, Loop design*):

Figure 15: Class A loop connection



1. Forward
2. Return
3. Loop 1
4. Loop 2

When class B operation is required, the A-jumpers should be removed to double the amount of loops. The B-jumpers should be put in. If 8 A class loops are in use and the B-jumpers are put in only the first 8 loops will be class B.

Figure 16: Location of Class A - Class B jumpers

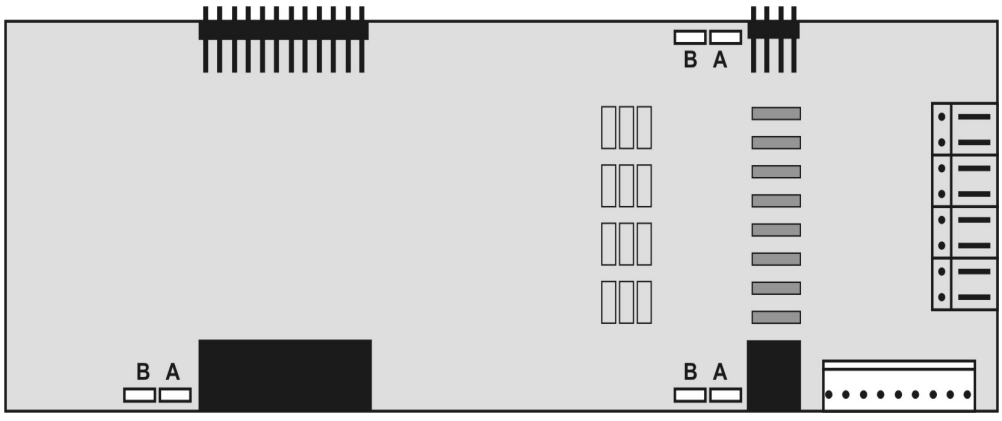
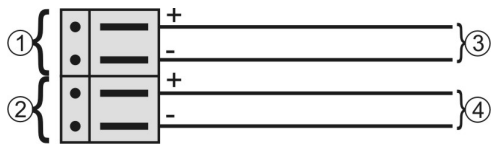


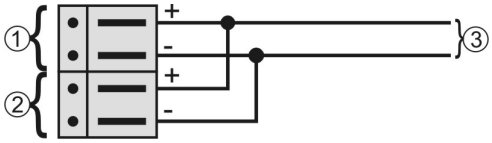
Figure 17: Class B loop connection



1. Forward
2. Return
3. Loop 1
4. Loop 2

- *The FWD and Return of each class A loop used must be linked in the correct polarity*
- *Isolators are polarity dependant (see Detector Installation and Commissioning Manual)*
- *Preferably loop boards must be configured for class A*
- *A and B loops can be combined in the following way:*
  a) Configure as class A
  b) Class B loops are connected as follows:

Figure 18: Class AB loop connection



1. Forward
2. Return
3. Loop 1

- *The maximum of loops (either A or B) in one panel is limited to eight.*
- *All loop cards in a panel must be configured in the same way (either A or B).*

Loop devices

The FP2000 Series of analogue addressable fire panels are fully compatible with the Aritech 900 range of detectors and manual call points, as well as with the Aritech range of monitoring controllers and input/output devices. They are also fully compatible with the Aritech Intrinsically Safe range of fire detectors.

The FP2000 Series of fire panels are also fully compatible with the Aritech 2000 range of detectors, manual call points and input/output devices.

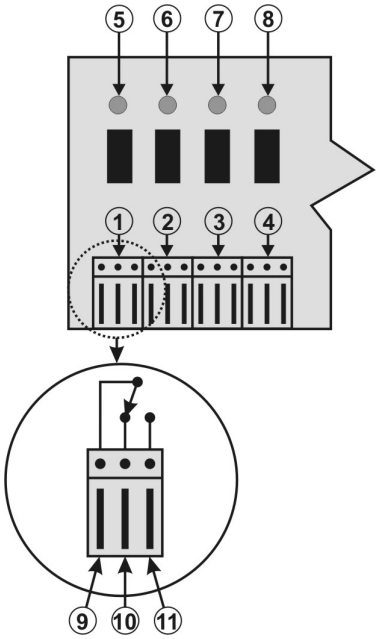
Dip switch 7 on the Host Power Supply board must be in the ON (up) position when using Aritech 900 devices and in the OFF (down) position when using the Aritech 2000 devices. *(See Appendix A*).

For information on any devices, refer to the appropriate Installation and Commissioning Manual.

6.2.2 Programmable relay

Each of the four programmable relays has a change over contact. The relay is shown in the NORMAL state. A red LED indicates the state of the relays.

Figure 19: Programmable relay connections

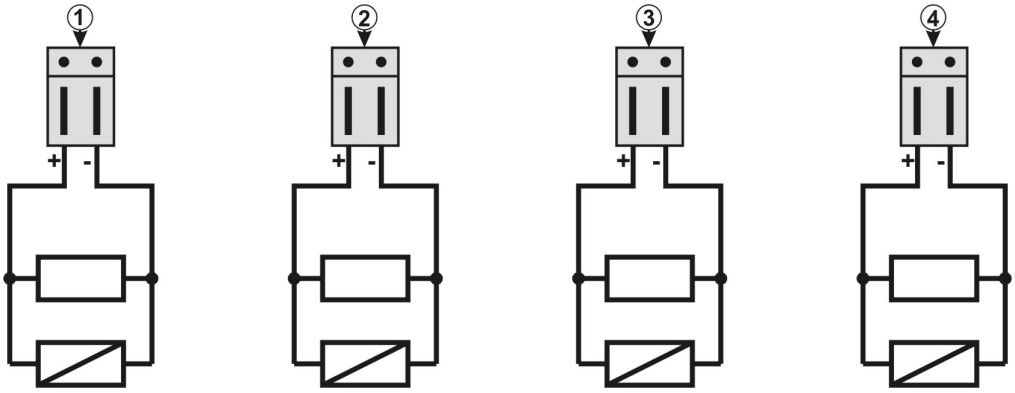


1. Programmable relay 4 (Out8)
2. Programmable relay 3 (Out7)
3. Programmable relay 2 (Out6)
4. Programmable relay 1 (Out5)
5. Output 8 switched LED indication
6. Output 7 switched LED indication
7. Output 6 switched LED indication
8. Output 5 switched LED indication
9. Common
10. Normally closed (Relay shown in NORMAL state)
11. Normally open

6.2.3 Supervised outputs A

These outputs provide 24 VDC when active. A red LED displays the state of the outputs. (Refer to sections 3.2.1 and 3.2.3 for technical information on these outputs.)

Figure 20: Supervised relay output's connection on SD2000 common I/O board



1. Fault routing (Out4) * Termination resistor - 3k3 * Including relay coil resistance * Polarity non-reversed * Active in normal position	3. Fire routing device (Out2) * Termination resistor - 3k3 * Including relay coil resistance * Polarity non-reversed
2. Fire protection device (Out3) * Termination resistor - 3k3 * Including relay coil resistance * Polarity non-reversed	4. Fire alarm device (Out1) * Termination resistor - 3k3 * Including relay coil resistance * Polarity non-reversed

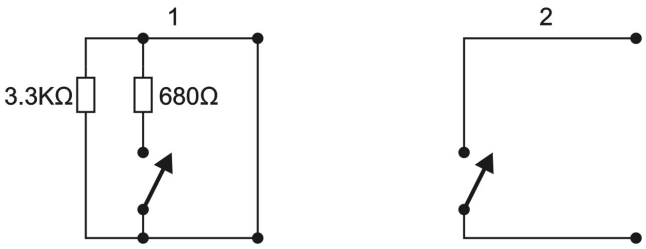
6.2.4 Relay outputs B

OUT1 / OUT2 / OUT3 (Refer to positions 7, 8, 9 in figure 13.)

Two configurations are available. The configuration is determined by jumper settings.

An LED indicates the state of the output (LED ON = output active).

Figure 21: Two configurations for relay outputs 1-3 B



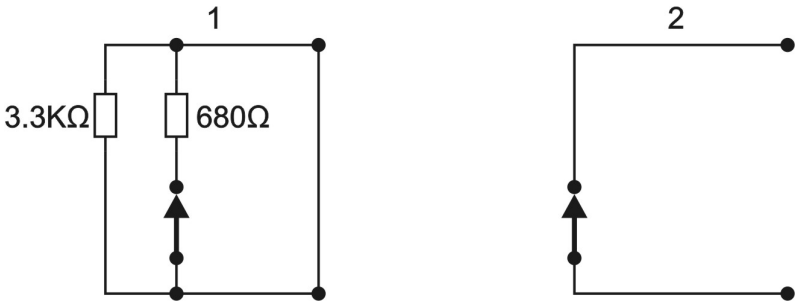
Outputs		CONFIG. 1	CONFIG. 2	
Sounders	OUT 1	J12 in J13 out	J12 out J13 in	✍ J18 out J19 out
Fire Brigade	OUT 2	J2 in J3 out	J2 out J3 in	✍ J18 out J19 out
Fire Protection	OUT3	J4 in	J4 out	

	J5 out	J5 in	

OUT 4 (Refer to positions 6 in figure 13.)

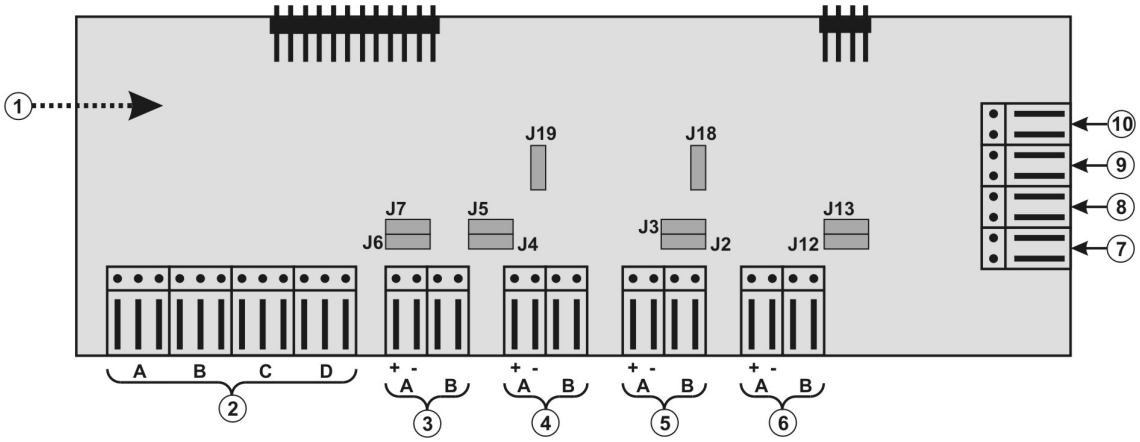
The configurations for OUT 4 are shown below (FAIL-SAFE). The switch is closed when there is a fault. The LED is ON when there is no fault.

Figure 22: Two configurations for relay output 4 B



Outputs		CONFIG. 1	CONFIG. 2
Fault routing	OUT4	J6 in	J6 out
		J7 out	J7 in

Figure 23: Location of jumpers on sounder board



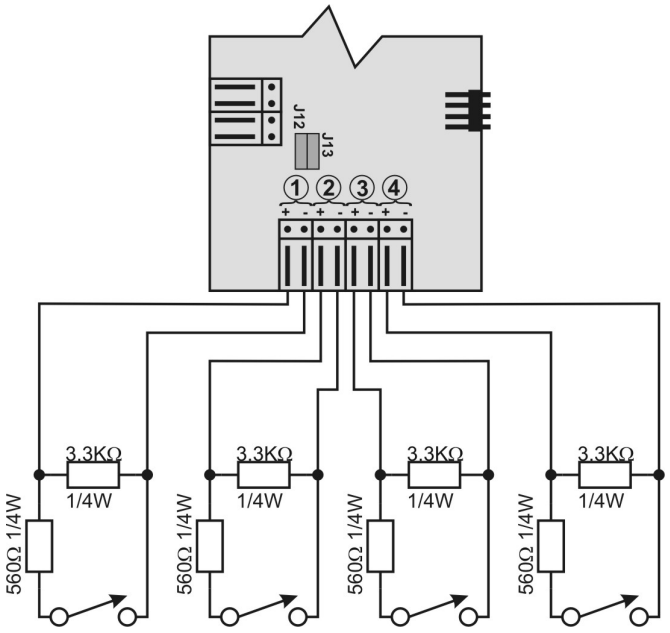
1. Sounder board
2. Programmable relays (A – Out8, B – Out7, C – Out6, D – Out5)
3. Fault routing (Out4)
4. Fire protection device (Out3)
5. Fire routing device (Out2)
6. Fire alarm device (Out1)
7. Input 8
8. Input 7
9. Input 6
10. Input 5

6.2.5 Supervised inputs IN5 - IN8

The supervised inputs are located on the sounder PCB.

The function of these inputs is determined by the operation mode of the FP2000 (see Appendix B). In EN, NEN and EP operation mode these inputs have no dedicated function and are freely programmable through I/O logic.

Figure 24: Supervised inputs connections

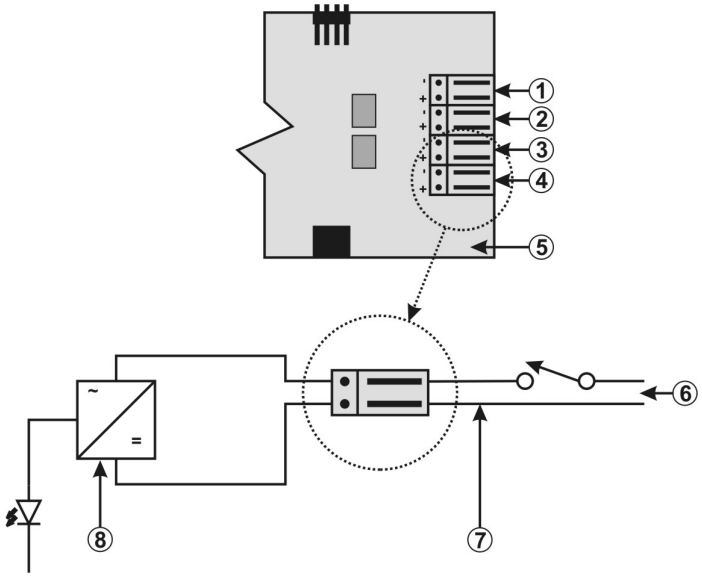


1. Input 8
2. Input 7
3. Input 6
4. Input 5

6.2.6 Auxiliary inputs (FEP2000 only)

Four auxiliary inputs are provided on the FEP-PCB. Each input is opto-isolated and independent of polarity. These inputs are not supervised and can be used through I/O programming.

Figure 25: Auxiliary inputs

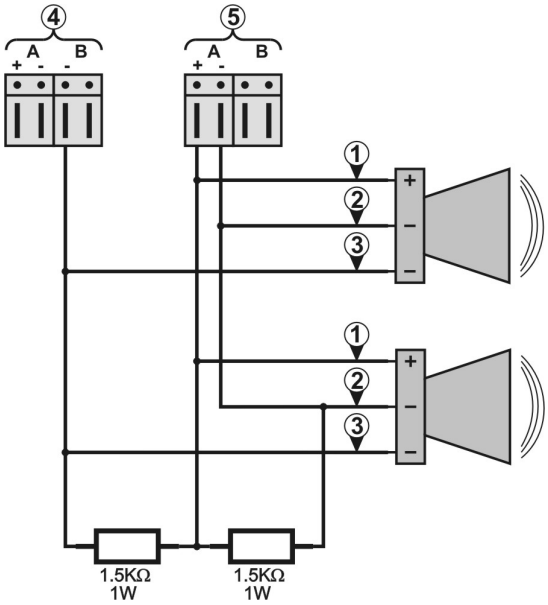


1. Auxiliary input 1
2. Auxiliary input 2
3. Auxiliary input 3
4. Auxiliary input 4
5. Section of FEP board
6. 20-28V DC or 10-15V AC
7. Field wiring
8. Fire panel input

6.2.7 Connection of dual tone siren AS263/AS264

The Aritech dual-tone siren can be connected on Sounder (out 1) and Fire Brigade (out 2) in the following way:

Figure 26: Dual tone siren connections



1. Common
2. Sound
3. Sound
4. Out2
5. Out1

Set jumpers as follows: J2 in, J3 in, J18 in, J19 in

This set-up should only be used when operation mode is "EP" (see Appendix B).

6.3 Communication port connections (all models)

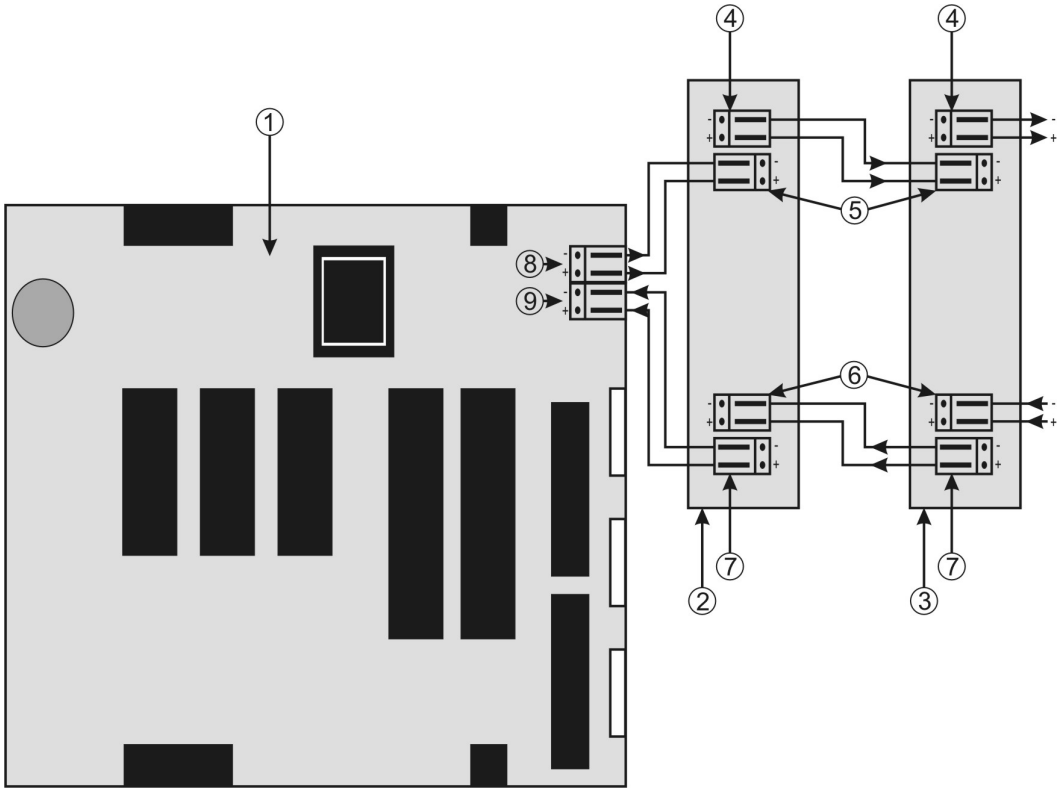
6.3.1 Current loop

A current loop output is provided as a standard feature on the FP2000 Series of fire panels. The current loop is used to drive up to 15 fireman's panels and conventional repeaters. Each fireman's panel/repeater has its own unique address, by means of resistor settings at that panel. *Please refer to the appropriate Installation Manual for the correct settings.*

The location of the current loop terminal connections is shown in Figure 3 & Figure 7.

The connections between the FP2000 Series fire panels and the FM800 Series fireman's PCBs and FR800 Series repeater are as shown below.

Figure 27: Current loop terminal connections



1. Host CPU board
2. Repeater 1
3. Repeater 2
4. RX out
5. RX in
6. TX in
7. TX out
8. TX
9. RX

To route the current loop wires inside the cabinet refer to section 4.

6.3.2 RS232 ports

The two RS232 ports are provided with DB25 male connectors. The location of the connectors is shown in Figure 3 & Figure 7. The signals at both the connectors are as follows:

PIN NR	Signal name
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

To route the RS232 cable inside the cabinet, refer to section 4.

When connecting the null-modem cable, the pins on both sides of the cable must be connected as follow:

Signal	DB25 (Panel Side) - Female	DB25 (PC Side) - Female	DB9 (PC Side) - Female	Signal
TXD	2	3	2	RXD
RXD	3	2	3	TXD
RTS	4	5	8	CTS
CTS	5	4	7	RTS
DSR	6*	20	4	DTR
DTR	20	6**	6***	DSR
DCD	8*	8**	1***	DCD
RI	22*	22**	9***	RI
GND	7	7	5	GND

* Pins must be connected

** Pins must be connected

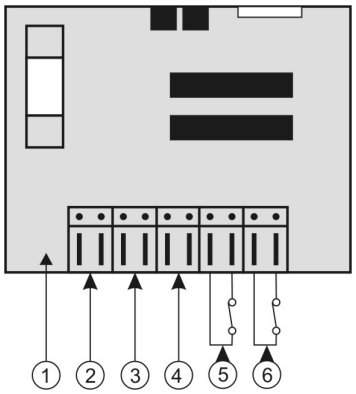
*** Pins must be connected

6.4 Power supply connections

6.4.1 24 V version FR2xxx models

The FR2000 is delivered with a 24 V connection board.

Figure 28: FP/FR2xxx power supply connections (24 V version)

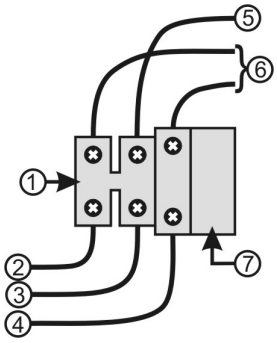


1. 24 VDC termination board
2. +24 V
3. –24 V
4. Earth
5. Charger fail (Normally shorted input)
6. Mains fail (Normally shorted input)

6.4.2 230 V version (FP/FR1xxx/FR2000 models – except FP1216EN & FP1264)

6.4.2.1 Mains connection

Figure 29: FP/FR12xx/FR2000 connecting mains-to-mains terminal block



1. Mains terminal block
2. Neutral
3. Earth
4. Live
5. To earth stud on panel
6. To transformer
7. Mains disconnect with fuse

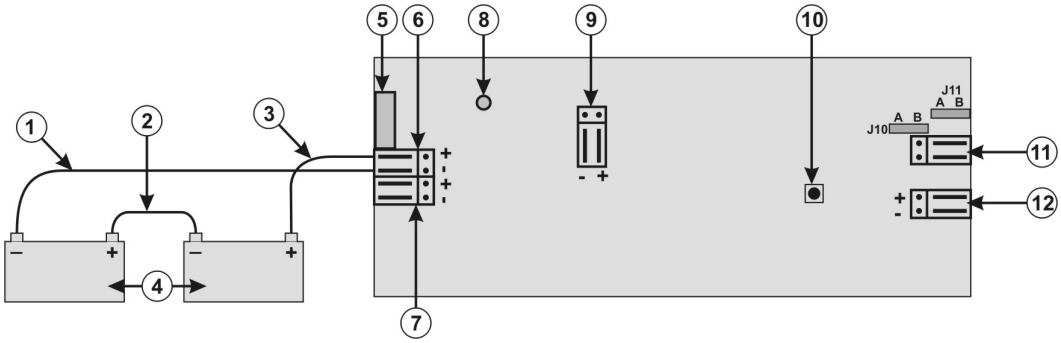
A mains terminal block with fuse is provided for connecting the panel to the mains. Please note the polarity of live, mains and earth.

During installation, the 230 VAC should be fed directly from a separate group in the distribution board. This group should have a bi-polar disconnect device, be clearly marked and only be used for fire detection equipment.

The recommended mains cable is 3 x 1.5 mm² (live, neutral, earth).

6.4.2.2 Power supply connections

Figure 30: FP/FR12xx power supply and fault relay connections



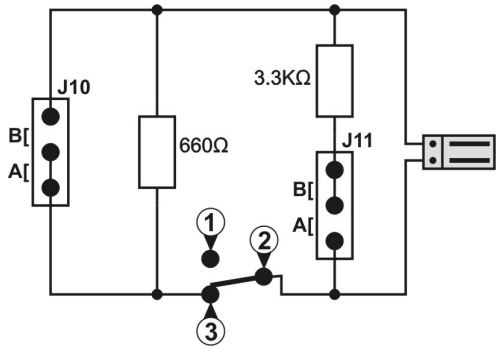
1. Black
2. Link
3. Red
4. 12 V Batteries
5. Host CPU connection
6. BAT connection
7. Vin connection
8. VR3 LCD contrast adjuster
9. Modem (MOD2000) connection
10. Start-up
11. Fault relay output
12. Auxiliary input

Observe correct polarity when connecting battery!

6.4.2.3 Power supply connections

1. Ensure that the mains power is disconnected before opening the unit.
2. Connect the fault relay as shown in figure 31.
3. Route the wires away from sharp edges and corners and fix them into position.

Figure 31: FP/FR12xx power supply's fault relay connections



1. Normally open
2. Common
3. Normally closed

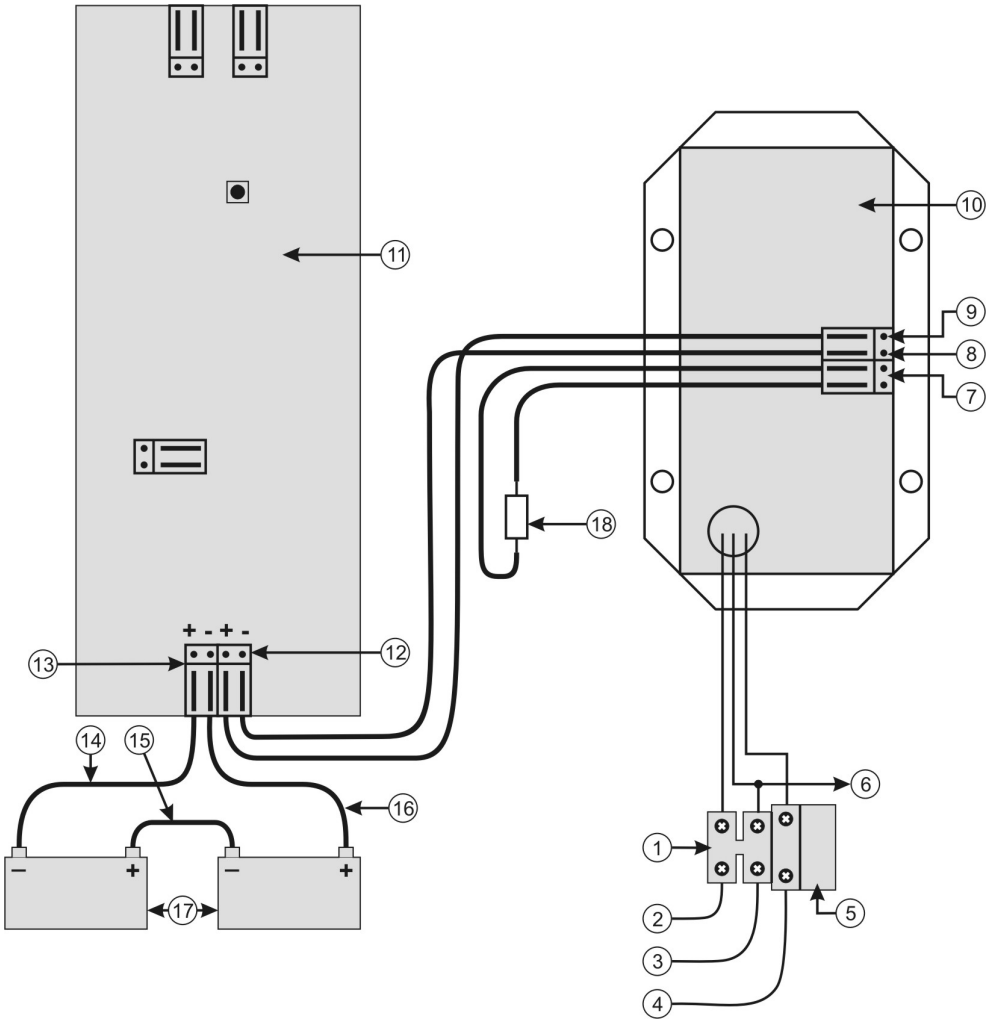
Fault output (NC) ((Jumpers default position - A)

J10 (Pins for position A connected on PCB)	Position A = 660 ohm
	Position B = 0 ohm
J11 (Pins for position B connected on PCB)	Position A = 3.3k ohm
	Position B = 0 ohm

Note: Resistors shown are mounted on the PS1200 board

6.4.3 FP1216EN & FP1264 Power supply connections

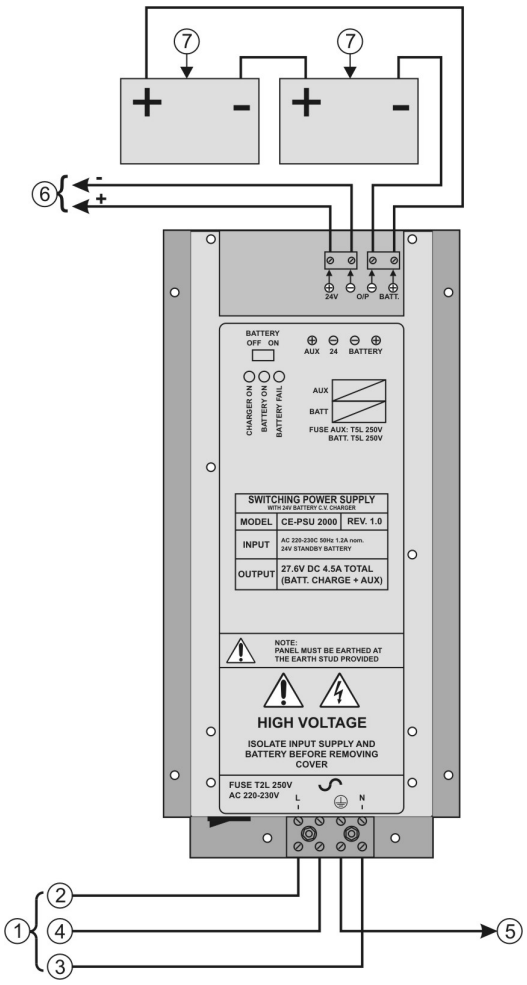
Figure 32: FP1216EN & FP1264 power supply and transformer connections



1. Mains terminal block
2. Neutral
3. Ground
4. Live
5. Mains switch with fuse
6. To ground stud on panel
7. Degrees C
8. +Vout
9. –Vout
10. Transformer (TRF1200)
11. Power Supply (PS1200S77)
12. Vin
13. Bat
14. Black
15. Battery connection wire
16. Red
17. 12 V Battery
18. Battery charging temperature compensation thermistor

6.4.4 230 V version (FP2xxx models)

Figure 33: FP2xxx power supply and associated connections (230 V version)



1. 230 VAC
2. Live
3. Neutral
4. Earth
5. To M5 earth stud mounted on back panel
6. 24 V power to ancillary fire panel equipment
7. 12 V batteries

The Direct Online power supply PSU-2000 has been designed according to EN54-4. A mains switch (on the bottom) is provided, as well as a battery ON/OFF switch. Three LED's on top of the power supply indicate the following:

- Charger On
- Battery On
- Battery fail

On top there is a 24 volt auxiliary output for other fire panel equipment.

As part of the building installation, the 230 VAC should be derived directly from a separate group in the distribution board. This group should have a bi-polar disconnect device, clearly marked and only used for fire detection equipment.

The recommended mains cable is 3 x 1.5 mm² (live, neutral, earth).

Two 12 V batteries have to be put in series and connected to the battery terminals. No other equipment may be connected to the battery terminations.

The PSU-2000 is designed for use in Aritech fire panel housing only.

An optional third source battery (9 V, PP3) can be installed as a third source of power.

The location of the third source battery is shown in Figure 7.

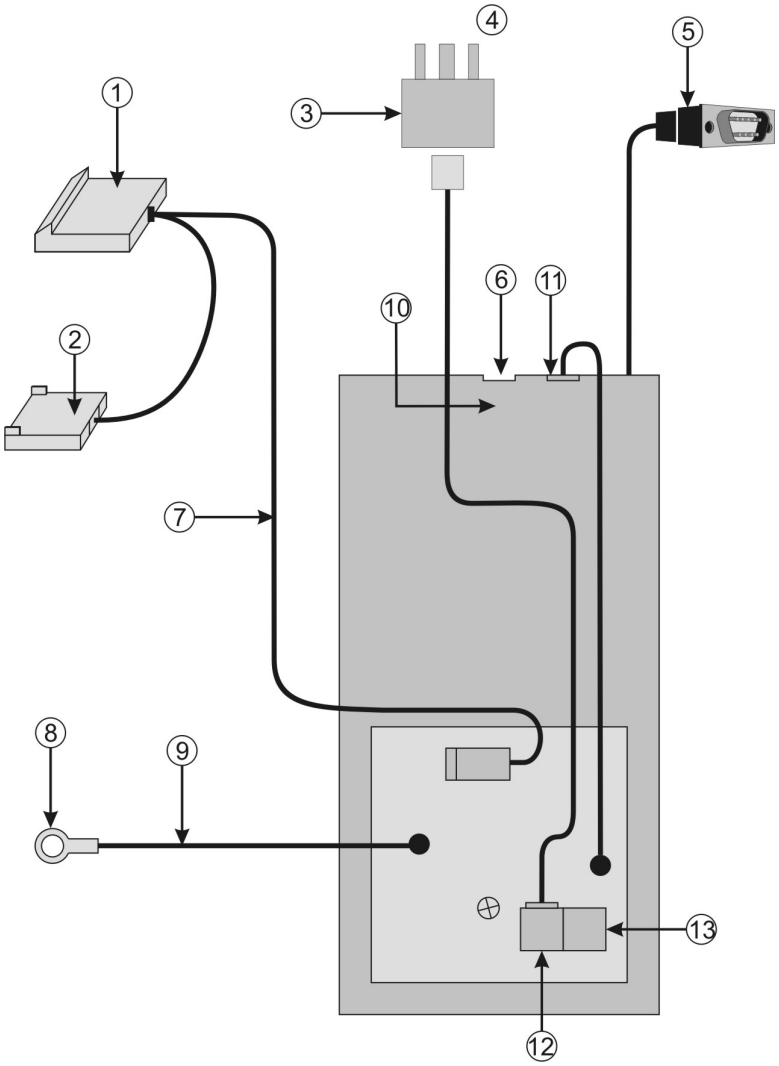
✍ *Refer to Section 4 – Mounting instructions for routing of mains wires in cabinet.*

6.5 Installing a modem

The installation of the MOD2000 modem is described below. The modem is provided with a bracket for wall mounting. To install this bracket, please refer to Figure 3, Figure 7 and Figure 34.

1. Remove the protective cover from the double-sided self-adhesive tape on the rear-mounting surface of the bracket supplied with the modem.
2. Position the mounting bracket inside the fire panel as shown in Figure 3 and Figure 7 and fix it into position using the double-sided self-adhesive tape.
3. Before connecting the modem to the fire panel ensure that the battery and the mains power are isolated.
4. Carefully read the Modem User's Manual. To connect the modem to the fire panel and telephone line, refer to Figure 3, Figure 7 and Figure 34.
5. Connect the green earth wire leading from the modem to the earth stud inside the fire panel. Please note that the modem and associated circuitry are only protected if this connection is made.
6. Connect the power harness leading from the modem to the power supply. Observe correct polarity. Please note that if the connector leading to the internal printer is not used. It must be tied down using the mounting studs provided inside the fire panel.
7. Connect the RS232 input on the modem to the serial port (DB-9 connector).
8. Connect the telephone line to the modem protection board (use the telephone cable adapter supplied if required).
9. Slide the modem into the bracket inside the panel and fix all cables in position using the hardware supplied (P-Clips and nuts). Ensure that the modem cannot slide out of the bracket.
10. Restore battery and mains power to the fire panel and turn the modem power switch the ON.

Figure 34: Modem MOD2000 interconnection diagram



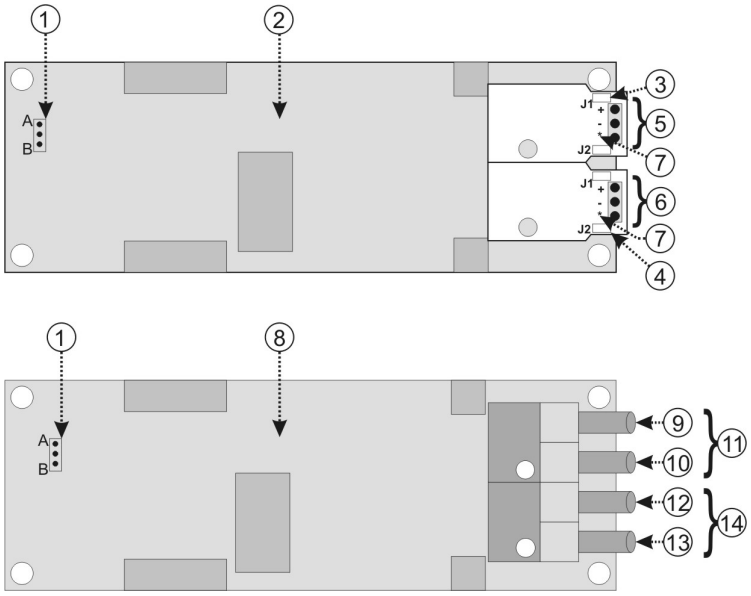
1. To 5 V on power supply (modem terminal)
2. 5 V to printer (not used – fixed in position to prevent contact)
3. Telephone line adapter (if required)
4. To telephone line
5. To Ser2 (DB-9 connector)
6. Not used
7. Power harness
8. To earth
9. Green
10. Phone
11. Line
12. Line connector
13. Modem connector

6.6 Network connections

6.6.1 NC2011/NC2051 ARCNET network cards

The NC2011 and NC2051 are interface cards required to network FP2000 Series fire panels and FR2000 Series repeaters/emulators. All network nodes communicate via the ARCNET protocol, using RS485 electrical (NC2011) or optical medium (NC2051). Every node on the network - except the UN2000 - must have a network card installed as a standard. The PCB is delivered with the necessary washers, nuts and spacers to allow for proper mounting. All repeaters/emulators are supplied with a standard NC2011 (RS485) network card. For more information refer to the Network Configuration Guide.

Figure 35: Network interface and associated connection

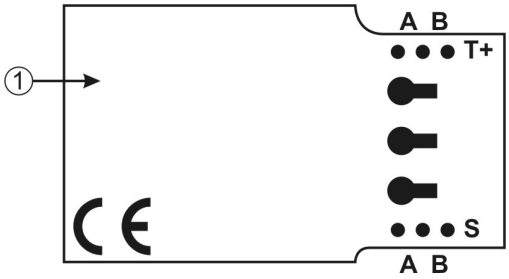


1. Repeater mode selection
2. NC2011 (RS485)
3. Jumper J1 –Termination end of line
4. Jumper J2 – Earth connection
5. Channel A
6. Channel B
7. Screen
8. NC2051 (Optical)
9. Tx – Transmit A
10. Rx – Receive A
11. Optical fibre connection channel A
12. Tx – Transmit B
13. Rx – Receive B
14. Optical fibre connection channel B

6.6.2 NE2011/NE2051 ARCNET network extension cards

The NE2011 (RS485) and NE2051 (Optical) are network interface modules that are mounted directly on the NC2011 or NC2051 network card. The modules provide the user the ability to implement a wide range of network topologies when networking FP2000 Series fire panels and FR2000 Series repeaters/emulators. The modules are delivered with the necessary washers, nuts and spacers to allow for proper mounting. For more information refer to the Network Configuration Guide.

Figure 36: NE2011 network extension module



1. NE2011

S. Screen (A-side: Not earthed
B-side: Earthed)

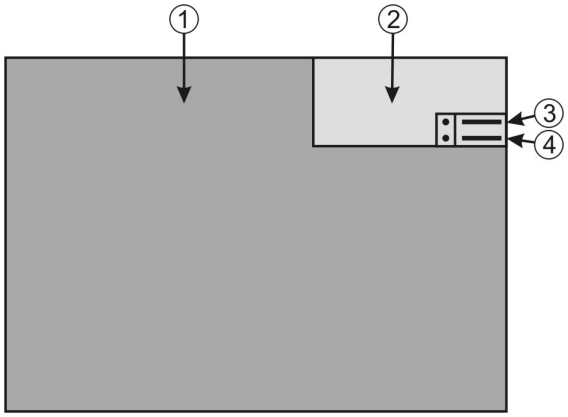
T+. Termination (A-side: Not terminated,
B-side: Terminated)

6.6.3 FP/FBP/FRL700 Serial communication network (LON2000)

The LON2000 interface module can be used on the following range of panels: FP2xxx, FP12xx, FP1xxx, FB2xxx and UN2011 series of products. (Please note that this module is not for use on any type of repeater e.g. FR2xxx series of products.) The LON2000 interface module provides the hardware platform for the above mentioned products to communicate to the FP700 range of serial communication interfaces.

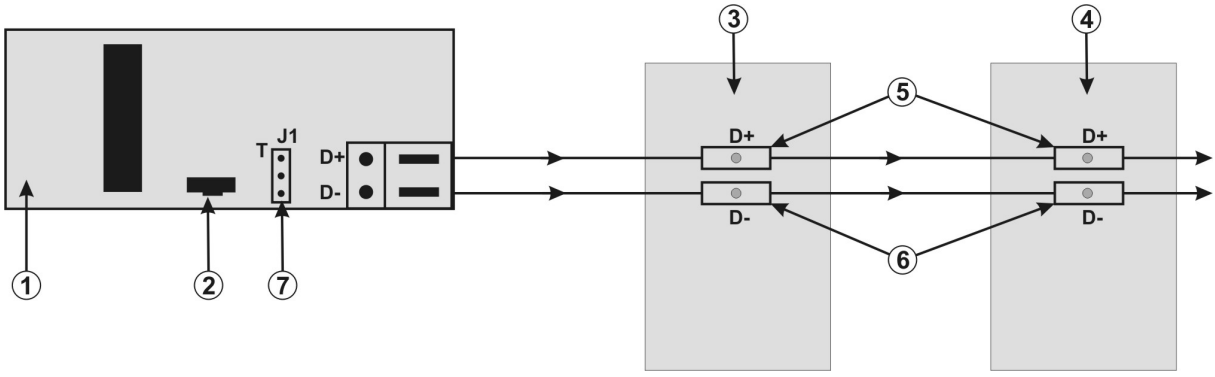
The FC1200/2011 board has a 20-pin male connector pin on which the LON2000 board must be mounted. The PCB is delivered with the necessary washer, nut and spacer to allow for proper mounting.

Figure 37: Mounting position of LON2000 board



1. FC1200/2011
2. LON2000
3. Data + (D+)
4. Data - (D-)

Figure 38: FP1xxx/2xxx Lon port terminal connections



1. LON2000
2. Service switch
3. FBP/FRL700 1 or FP700 module
4. FBP/FRL700 2 or FP700 module
5. Data + (D+)
6. Data - (D-)
7. Termination

Jumper in Terminated (T) position: Serial communication port is terminated into 120 ohm

Jumper removed: Serial Communication Port is not terminated.

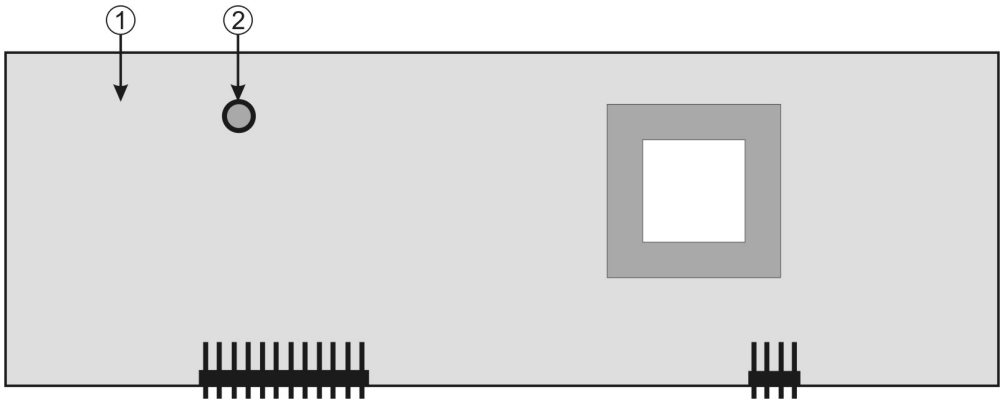
If a LON2000 interface board is used in the first or last panel of a LON network, the jumper has to be set to (T)erminated.

6.7 LCD contrast

6.7.1 FP/FR2xxx

The LCD display may be set to obtain maximum contrast by adjusting the viewing angle of the LCD display. This viewing angle is set by adjusting potentiometer VR 1 located on the LCD display and backlight board.

Figure 39: Adjustment of the LCD viewing angle



1. LCD display and backlight board
2. VR1 (LCD contrast control)

6.7.2 FP/FR1xxx

Adjust the viewing angle of the LCD display to obtain the maximum contrast by the potentiometer VR3 (contrast) which is located on the power supply board (see Figure 30).

7 COUNTRY DEPENDENT SELECTIONS

7.1 Language selections

7.1.1 FP/FR1xxx

Language selection is Software Selectable.

Please refer to Appendix A

7.1.2 FP/FR2xxx

The DIP switch on the inside of the panel is used to select the language. *Please refer to Appendix A.*

SW1/SW2/SW3 determine the language.

7.2 Operation mode

NEN, EN, VdS or EP mode of operation is selectable. The operation of Sounder, Fire Brigade Outputs and Inputs from Fire Brigade, Fire Protection and Fault Routing are influenced by these settings. *Please refer to Appendix C*.

7.3 Language inserts

Inserts are available in several languages and need to be slipped into the inside of the panel.

8 COMMISSIONING A FP2000 SERIES FIRE PANEL

8.1 Before switching on

1. Visually check the fire panel for any damage that might have occurred during installation. In particular, check for loose pieces that could have fallen in the electronics.

2. Check that all harnesses are securely plugged into the correct plug positions on the printed circuit boards.

3. Ensure that both the mains switch and the battery on/off switch are in the OFF position.

4. Enable the lithium battery by linking the jumper J5 (located above the battery on the host CPU board) to the ON position.

5. Unlock the memory.

6. Set the panel to service mode (this prevents any output from switching during commissioning).

7. Connect the main supply to the power supply input terminals or connect the 24 V to the 24 V supply board.

8. Connect the batteries to the battery terminals of the power supply. Observe correct polarity!

9. Connect the repeaters (Fireman's panels) to the current loop terminals. For detail refer to the FM800 Installation, Configuration and Detailed Operation Manual.

10. Connect the network card (if necessary) - for detail refer to the Network Configuration Guide.

11. Ensure that the fire panel is well earthed at the earth terminals provided. The earth must be directly wired to the distribution board earth. This is required for reasons of both safety and interference suppression.

12. Ensure that all field devices are connected and that their addresses are correctly set.

✍ *Loop isolators must have the correct polarity wired.*

13. Use a multimeter to check all field wiring for short circuits, continuity, and earth faults. If isolators have been used in the loop wiring, then one wire of the loop will not have continuity. Continuity, earth fault and short circuit must be checked between each isolator.

⚠ ***CAUTION!*** *DO NOT MEGGER THE LOOPS - This will damage devices connected to the loops.*

14. Connect all field wiring to the fire panel. The service switch ON will prevent outputs from switching.

15. Ensure that NO loose bare wiring exists in the fire panel cabinet. This can cause damage to the electronics.

8.2 Procedure for switching on

1. Switch the main power on at the power supply or connect the 24 V to the 24 V supply board.

2. The internal buzzer will sound and the product code will be displayed on the LCD screen along with the revision of host firmware, firmware code and the creation date of the firmware.

   If the above does not occur, DO NOT proceed. Check that the mains supply is present and that the fuses are good.

3. Switch the battery On/Off switch to the ON position (230 V model only).

4. Check that the battery float voltage is 27.6 V. If the voltage is significantly less, then check:

   - Are the batteries flat?
   - Are there possible overloads in the field?

5. If there are visible signs of the power supply overheating, then do not proceed. Disconnect the field wiring and batteries, and eliminate the cause of the problem.

6. The fire panel will perform internal checks. Any failures occurring will be reported on the LCD screen.

   Observe the total number of faults reported on line 8 of the LCD screen.

   It is expected to have at least two faults reported:

   - Memory unlocked
   - Service switch ON

7. Use the key to view the faults existing.

8. All faults (except for the two above) should be eliminated before proceeding further. Use the [RESET] button to obtain a new fault report each time.

   Possible faults that can occur on switch ON are:

   - Loop overload - Check the affected loop for short circuits
   - Earth fault - Check/eliminate the fault
   - Battery fail - Check battery charging
   - Sounders or fire brigade - Check 3K3 termination resistors
   - Short circuit or open circuit termination resistors
   - Specific device faults - Check device
   - Double address - Note address of device and check

9. Enable the loop devices of the FP2000 fire panel in one of three methods:

   - Individually manually using the Device Set-up Menu.
   - Set default using the System Default Set-up.
   - Program by means of a laptop computer using the RS232 port.

10. Eliminate any fire alarms and communications alarms reported.

11. Investigate all devices that are reported Disabled.
12. Check all output relays for correct switching.
13. Configure your Panel ID.

IF A NETWORK IS INSTALLED:

1. Configure network set-up with one of two methods:
    - Manually using LCD menus.
    - Program by means of a laptop computer using the RS232 port.
2. Investigate all panel and repeater faults that are reported.
3. Check status of the systems on the ARCNET network that are configured to communicate with the repeater. Faults regarding communication with repeater node identification address should disappear when the ARCNET network is operational.
4. Check all connections to panels by emulating them.
5. Check panel fault reporting by switching the panel off.
6. Check fire and fault reporting.
7. Once all of the above is correct, then:
    1. Switch the service switch to OFF
    2. Check all network I/O for correct functioning
    3. Switch the memory lock switch to locked
8. Reset the repeaters and panels.

APPENDIX A: DIP SWITCH SETTINGS ON HOST PSU BOARD (FP/FR2XXX)

On host power supply board:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	OPTION		
						ON		Aritech (950 Series)		
						OFF		Sentrol (2000 Series)		
				OFF	OFF			EN Operation		
				OFF	ON			VdS Operation		
				ON	OFF			NEN Operation		
				ON	ON			EP Operation		
								Language Group		
								1	**2**	**3**
OFF	OFF	OFF						English	English	English
OFF	OFF	ON						Italian	Lithuanian	Lithuanian
OFF	ON	OFF						Dutch (Belgium)	Polish	Danish
OFF	ON	ON						Portuguese	Hungarian	Swedish
ON	OFF	OFF						Dutch (Holland)	Czech	Norwegian
ON	OFF	ON						German	Slovakian	Finnish
ON	ON	OFF						French	Russian	Estonian
ON	ON	ON						Spanish		Latvian

ON = Upper position
OFF = Lower position

The location of the DIP-switch is shown in Figure 7 (position 12).

Note: If a SD1200 or SD2000 is mounted in the panel VdS mode is not fully supported.

APPENDIX B: SOFTWARE SELECTABLE OPTIONS (FP/FR1XXX)

	OPTION		
1	Aritech 900 Series		
2	Aritech 2000 Series		
3	EN Operation		
4	Vds Operation		
5	NEN Operation		
6	EP Operation		
	*** Lang. Gr.1**	*** Lang. Gr2**	*** Lang. Gr.3**
7	English	English	English
8	Italian	Lithuanian	Lithuanian
9	Dutch (Belgium)	Polish	Danish
10	Portuguese	Hungarian	Swedish
11	Dutch (Holland)	Czech	Norwegian
12	German	Slovakian	Finnish
13	French	Russian	Estonian
14	Spanish		Latvian

✍ *The language group depends on the software installed into the FP/FR1200 fire panel at time of purchase.*

APPENDIX C: OPERATION MODES

Mode	EN	VdS*	NEN	EP
SOUNDERS:				
Sound	Resound (level 2)	Resound (level 2)	Resound (level 2)	Sound (level 2)
Silence	Silence (level 2)	Silence (level 2)	Silence (level 1)	Silence (level 2)
Delay	Allowed	Allowed	Not allowed	Allowed
			1 min. time-out Fire Brigade signal time-out stopped by silence bell	
Fire Brigade:				
Signal	No	No	No	Signal (level 2)
Stop	No	No	No	Stop (level 2)
Delay	Allowed	Allowed	Allowed	Allowed
VdS Inputs:				
inp 5	Logic	Logic	Logic	Logic
inp 6	Logic	Logic	Logic	Logic
inp 7	Logic	Logic	Logic	Logic
inp 8	Logic	Logic	Logic	Logic

* VdS-mode is only applicable to a firepanel fitted with a SD2000 module. A firepanel fitted with a VDS2000 module will have different settings.

3252-6.2